# Clinical Lecture
ON
# SUBFASCIAL SUPPURATION IN THE NECK,
## AND ITS TREATMENT BY A MEDIAN INCISION IN FRONT.

*Delivered January 9th, 1879,*

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GENTLEMEN,—The importance of the neck from an anatomical and physiological, and therefore from a surgical point of view, is greatly in excess of its mere size. It is a specialised part of the axis or the trunk of the body. Besides containing the cervical portions of the vertebral column and spinal cord, it transmits the great bloodvessels going to and from the head and face, as well as those large visceral nerves, the pneumogastrics, the sympathetic trunks, and also the cardiac, phrenic, cervical, and brachial nerves; it is the common thoroughfare of the food-passages and air-passages; and it contains parts of the parotid and submaxillary glands, the root of the tongue, the whole of the larynx, and the thyroid body; it is likewise traversed by many muscles; it possesses an abundant lymphatic system; and, lastly, all its parts, surrounded by a loose areolar tissue, are separated and invested by a definitely arranged deep fascia, which again is covered in by superficial structures. Deep suppuration in such a region cannot fail to have more serious consequences than it has, for example, in the thigh, though this latter part is of much larger size.

*Superficial suppuration* in the neck, to which I can here devote only momentary attention, so as to contrast it with the proper subject of this lecture, is, as is witnessed continually in the wards, but most frequently among the out-patients, usually of the *circumscribed* form, and is perhaps always dependent on inflammation around or within superficial lymphatic glands or plexuses. It may be acute or chronic, thus giving rise to hot or to cold abscess; it may depend on exposure to cold, on constitutional causes, or on the absorption of infective material by the afferent lymphatics of the coverings of the face and head. The localised subcutaneous abscesses thus formed occupy the seats of the lymph-glands or plexuses, appearing below the occiput or the ear, beneath the angle or the body of the lower jaw, under the chin, along the course of the external jugular vein, or in the supraclavicular or suprasternal regions. They may overlie, but they never displace, even the trapezius or the sterno-mastoid muscles. They do not affect deglutition, respiration, or speech. The chief practical aim of the surgeon in treating such abscesses is to evacuate them as soon as possible after fluctuation is felt, and in such a manner as to avoid, or to minimise, scarring of the skin. This may be accomplished by single or repeated aspiration, by simple or double puncture, followed or not by the use of horsehair or tube drainage; or lastly, by small incisions, well planned in relation to the suppurating cavity, and to the surrounding folds or markings of the surface.

As to *diffused superficial suppuration* in the neck, the result of acute cellulitis, complicating erysipelas or arising as a consequence of bites, stings, or any kind of so-called poisoned wounds, this is characterised by its rapidly spreading beyond the boundaries of the neck—as, for example, upwards over the head and face, from which, indeed, it not unfrequently descends, and downwards below the clavicle or over the back and shoulder. It may penetrate to the areolar tissue beneath the deep fascia. It is often quickly fatal. As regards operative treatment, it requires prompt, free incisions, lateral or median, oblique or vertical, as the case may be.

But it is to *deep-seated suppuration* in the neck that I wish to-day to direct your attention, and this for the especial purpose of strongly emphasising the recommendation to practise, in certain forms of it, a vertical median free incision through the deep fascia, along the front of the neck, as soon as pus has actually reached the middle line, or even when it is near that part. This deep-seated suppuration, or *subfascial* suppuration, may, like the superficial kinds, be either *circumscribed* or *diffused*; the former being lymphatic in its origin, and always acute or subacute, and the latter resulting from various forms of acute cellulitis. The local abscesses arising from lymphatic inflammation depend most commonly on the absorption of infective material from the mucous membranes of the fossæ and sinuses of the nose, or from those of the mouth, fauces, pharynx, or larynx, or from small abscesses or ulcers in those parts, follicular or dental. They are met with beneath the symphysis, body, or angle of the jaw, near the sublingual or the submaxillary salivary glands, or upon, below, beneath, or in the midst of the parotid gland; they may also form along the sheath of the great bloodvessels at the sides of the œsophagus and in the lower parts of the triangles of the neck. If effectually circumscribed and localised, they gradually, with considerable swelling and much pain, distend and thin the deep fascia, and thus approach the skin. They are distinguished from superficial abscesses by their deeper origin, by their lifting up or displacing sideways the trapezius, the sterno-mastoid, or other muscles, and by their stiffening the neck and the lower jaw. They may also interfere with swallowing, breathing, or speech. As soon as they approach the surface, all such abscesses should be opened by small incisions at selected spots, so as to avoid wounding large bloodvessels or other important structures, and to minimise the resulting cicatrices. But owing to the resistance of certain parts of the deep fascia being far greater than that of the circumscribing inflammatory exudation, these local abscesses frequently extend themselves progressively into the subfascial intermuscular areolar tissue; sometimes, too, when the pus is highly infective, or the constitutional powers of the patient impaired, they actually excite a true cellulitis, accompanied with the further formation of pus and sloughs.

The distinctions between a simple progressive suppuration, or burrowing abscess—an abscess of the kind which is followed by active cellulitis,—and the true diffused suppuration consequent on a primary cellulitis, are clinically precise: they relate to differences of causation, as well as to differences in their modes of onset and progress, in the accompanying general symptoms, and in the prognosis, as regards gravity and danger to life—the diffuse cellulitis being by far the most serious condition. But all these forms of suppuration agree in being subfascial, in occupying similar regions, in giving rise to local symptoms due to pressure and irritation, and in being amenable to the same simple surgical procedure. The swelling which accompanies them may pass upwards over the cheek, and (but rarely) over the clavicles and sternum below; but the suppuration itself is limited by the attachments of the fascia to the jaw above, and to the collar-bones and sternum below. Sometimes the advancing exudation and induration, with the pus beneath, extend chiefly above the hyoid bone, between it and the arch of the lower jaw, and at other times they descend below the hyoid bone on the side of the fore part of the neck. In either case the brawny exudation forms a sort of collar on one or the other side of the throat, as far as, or a little beyond, the middle line; the general swelling pushes the lower jaw upwards, forwards, and laterally, causing it to protrude and project over to the opposite side, and thus stiffens the neck and interferes with the movements of the lower jaw; more deeply, it presses upwards and inwards, beneath the jaw, against the floor of the mouth or the side and base of the tongue, further back against the side of the pharynx, and, lower down, on the thyro-hyoid membrane, the œsophagus, the larynx, the trachea, and the great bloodvessels. If the suppurative process commences in, or extends to, the inter-lobular tissue of the parotid gland, the pressure and irritation may affect the auditory meatus, may act on the hinder border of the jaw, distend the parotid fascia, and even temporarily paralyse one or more branches of the facial nerve. In this way are to be explained the associated difficulty of mastication, swallowing, breathing, and speech, the sensation of internal constriction or strangulation, the partial or complete deafness, the prominence and tension of the eyeballs, the disturbances of vision, the symptoms of cerebral congestion, and the occasional partial paralysis of facial muscles. Should the mischief occur simultaneously on the two sides of the neck, the symptoms are necessarily much aggravated.

The path of the suppurative process towards the side and front of the neck is determined to the supra- or the infra-hyoid regions by the attachment of the fascia to the hyoid bone, and by the septa given off behind that bone towards the stylo-hyoid and digastric muscles, as well as by the fascia

separating the submaxillary and parotid glands. More deeply, the suppuration proceeds along the intermuscular spaces, penetrates the weaker portions of the fascia, such as the part between the ascending ramus of the jaw and the styloid process, or travels along the course of bloodvessels in various directions. It passes inwards, between the little styloid muscles—the bouquet of Riolanus,—to gain the thin side of the pharynx, and it reaches the auditory meatus guided along the deeper portions of the parotid gland. How far any special irritation of nerves or muscles may give rise to certain of the local symptoms, time does not permit me here to consider, nor can I dwell on the accompanying general phenomena of fever, prostration, and distress, nor do more than mention the risks of pyæmia, septicæmia, and exhaustion which attend on these deep-seated suppurations of the neck. It must be added that they are clearly to be distinguished from tonsillar or peri-amygdaloid abscesses, or quinsies, which are formed entirely within the pharyngeal walls, and also from the chronic prevertebral abscesses (often improperly confounded with the post-pharyngeal kind), due to caries of the cervical vertebræ which form behind those walls, and which usually gravitate into the chest. The true post-pharyngeal abscess, the result of acute cellulitis, which is a rare affection, may itself pass round the side of the pharynx, and so gain the neck. But the deep-seated suppuration we are specially considering might rather be designated "peri-pharyngeal," or, from its characteristic accompanying symptom, "strangulating abscess" of the neck.

Let me now direct your attention to the following selected cases, which illustrate the various characters of these deep-seated suppurations in the neck, and the success of their treatment by a median incision through the deep fascia in front.

CASE 1. *Peri-pharyngeal cellulitis and abscess.* — M. B——, a married woman, aged forty-nine, admitted July 16th, 1877, had a fishbone stick in her throat a week since. Attempts made to dislodge it are said to have failed, and to have caused severe suffering. This was followed by gradual swelling, continual pain, and difficulty of deglutition and speech—symptoms which increased, so that on her admission she could no longer swallow solids. At that time there was a general swelling of the right side of the neck, which extended like a hard collar till it reached just across the middle line below the hyoid bone; no distinct fluctuation could be felt. There was extreme fetor of the breath, and, before the jaw became too fixed, a small vertical ragged and sloughy opening could be seen on the right side of the pharynx, an inch or so below the tonsil, from which a dirty pus escaped. All the local symptoms, especially a feeling of *constriction*, became rapidly aggravated, and the general condition of the patient indicated great prostration. At the visit I made a vertical median incision an inch and a half in length, deepening it by successive cuts, through the firm skin and subcutaneous tissue, a little to the right of the middle line of the neck, until no more hardened tissue was felt beneath the edge of the knife; a probe-pointed director was then thrust easily into a cavity, from which some pus escaped. This was followed by the introduction of a pair of polypus forceps, by which the aperture in the abscess wall was freely dilated. The forefinger was then passed up into the neck between certain cords or bands, as high as the side of the pharynx, beyond the hinder end of the hyoid bone. A free discharge of greenish fetid pus took place. A large drainage-tube was introduced. The wound was kept open. A few long sloughs were drawn out from time to time. After the operation the sense of internal constriction and the difficulty of breathing were alleviated, and fluids could be swallowed more easily, but solids not at all. On the fifteenth day after, the patient slowly improving, there was still this difficulty. On the thirty-third day the wound had quite healed; the neck was free from swelling and hardness; there was no pain; the general health was nearly restored; the patient took pulpy food easily, but even then could not swallow solids. She was discharged the next day. It may here be added that no hæmorrhage of importance occurred from the incision; nor did any happen during the separation of the sloughs, though these must have been very near to the large bloodvessels and their branches.

CASE 2. *Double interlobular suppurative parotitis, with extensive cellulitis and abscesses in the neck.*—Mr. S——, aged fifty, had been suffering for some time from the effects, as it was supposed, of over-work, and had experienced considerable distress from sudden and loud noises, over-sensibility of hearing generally, and great nervous irritability., On Feb. 20th, 1878, he complained of cold and shivering, and felt very ill, with headache and violent pains in the stomach and bowels. This state continued till the 23rd, when he obtained relief, after a free action of the bowels, due to a brisk aperient, the symptoms being then attributed to a disordered state of the excretions. On the 27th, feeling better, he went out, though under protest from his medical adviser, Mr. W. Dewsnap; he returned home much more ill than before, with great fever, increased headache, a red tongue, a burning pain in the bowels, distension of the abdomen, and considerable diarrhœa, which lasted several days. On March 3rd—that is, eleven days after his first complaining of cold, and still longer after he was first taken ill—the neck began to swell on the right side, below the ear, and the cheek also on the same side, the attack resembling mumps. On the 6th, suppuration being anticipated, poultices were applied, and the swelling thenceforth increased very rapidly, whilst the bowel irritation and the general feverishness abated. On the 7th, the left side of the neck and the left cheek began to swell, and partial deafness ensued, with great embarrassment of both speech and swallowing. The tonsils were also very red, and the pharynx generally much swollen. The patient became very sleepless. He was sometimes only half-conscious, his mind often wandered, and he occasionally put his hand to his throat, and complained of a feeling of *strangulation*. These symptoms were evidently due to the pressure on the great bloodvessels and other parts, the swelling on each side of the cheeks being enormous. The swollen parts below the ears were now of a dark-purple colour, and seemed ready to burst; but no spot of fluctuation could be detected. Poulticing was continued; fluid food and stimulants were very freely administered, though in small quantities at a time. On the 8th, a sudden discharge of pus occurred from inside the right ear, which had from the first been more affected than the other, and on syringing the ear two small openings were seen deeply in the ear-passage, from which the matter issued. The next day an abscess broke in two places on the right cheek, with a very copious discharge. But the patient still suffered extremely from almost a total want of sleep, and the sense of constriction within the throat increased. A fresh opening then formed behind the right ear, and after that another below the left ear; but the relief was still incomplete. For several days the patient had been unable to articulate distinctly, and now extreme hardness and redness of the swelling in front of the throat, below the chin, supervened; the lower jaw protruded considerably in advance of the upper one, was tightly closed, and was fixed in that position. Vision was so imperfect that the patient could hardly see, and the eyeballs were very painful, and felt as if they were bursting. The right eye could not be perfectly closed. A distressing gurgling in the throat continually took place, with laboured breathing or panting, accompanied by a feeling as if a string were in the throat, and with efforts to pump something up. The patient took brandy, champagne, and beef-tea freely; but on two successive nights most profuse sweatings occurred, the pulse began to flag, low muttering delirium set in, the attacks of dyspnœa became frightful, and the condition of the patient was one of extreme urgency. Being called in consultation with Mr. Dewsnap, who concurs in this report, I gave a very guarded prognosis, but suggested, from previous experience, that a free and deep median incision should at once be made through the hardened and swollen integuments and fasciæ in front of the neck. Such an incision was accordingly made from just beneath the chin to a little below the hyoid bone, and gradually deepened until some pus was evacuated; the opening through the fascia was enlarged, first by a director and afterwards by the finger, which could then be passed up on both sides of the neck to the corresponding angles of the lower jaw. More pus escaped. The mouth could now be opened, and on passing both forefingers far back into that cavity two soft pouches were detected, one on each side of the base of the tongue, pressure on which caused pus to stream out of the right ear and from the several openings through the skin near both ears. The walls of these pouches were then lacerated with the finger-nails. Four slight supplementary incisions were made in the undermined integuments before and behind the two ears. The incision in the neck gave immediate relief to the patient, enabling him to breathe with comparative ease, and to state that the "tight string" which he had previously felt in his throat was "gone"; it would seem as if this incision relieved the tongue and the glottis from pressure. On the same evening, however, he spat up a large quantity of further accumulated pus, and

this brought relief to the pharynx and to the act of deglutition. The wound in the neck, as well as the numerous openings in the cheek and near the ears, drained freely; many sloughs came away, especially from over the right parotid; the discharge gradually lessened, one by one the sinuses healed, the general health steadily improved, and the patient made a complete recovery, the only permanent defect being a slight impairment of the hearing on the right side. The right eyelids regained their power, and the speech and swallowing were perfectly restored.

CASE 3. *Lymphatic abscess, with progressive suppuration.*—C. F——, male, aged twenty-eight, admitted Nov. 16th, 1878. A fortnight since the patient had toothache in the left first molar of the lower jaw, the tooth itself being decayed; the pain commenced with a chill, and lasted four or five days. Six days before admission a small lump came on the upper part of the left side of the neck, and four days later another appeared on the right side. As the former one increased rapidly in size, he came into No. 2 ward. A large swelling extended from the angles and base of the inferior maxilla downwards, reaching almost to the clavicles below, and to the posterior edges of the sterno-mastoids on the two sides of the neck, those muscles being pushed outwards and backwards. The swelling formed a sort of collar around the neck, lifting up the jaw, and, as it was larger on the left side, turning the chin somewhat over to the right side. The swelling was hard and red, and had no special point of tenderness about it; the first left lower molar was slightly tender. An oakum poultice was at once applied. On the 17th, at the usual visit, the nature of the case being apparent, the tension and other effects of pressure increasing, I made an incision, an inch and a half long and three-quarters of an inch deep, in the middle line from opposite the lower border of the thyroid cartilage downwards through the hardened integuments. A polypus forceps was then inserted, and turned to the left underneath the deep fascia, and a large quantity of healthy pus flowed out. The finger was introduced, and then a drainage-tube, a piece of antiseptic gauze being afterwards secured around the neck. The wound continued to suppurate freely until the 22nd, when the discharge began to abate. The patient was entirely relieved by the operation; and on Dec. 7th, the wound had become superficial and the patient convalescent.

CASE 4. *Lymphatic abscess with cellulitis.* — C. B——, male, aged twenty-three, admitted on Dec. 27th, 1878. On the 4th of this month the patient states that he went to a theatre, and chewed tobacco and drank beer the whole evening, getting intoxicated. The next day he had a painful spot under the left side of his tongue, where he held the tobacco. He thinks a lump formed there. This pain never left him; and on the 21st he first noticed a swelling under the jaw on the left side, which has continued to increase ever since. Three days ago the floor of the mouth became ulcerated on the left side. The swelling extended very rapidly. On admission the left side of the neck and a part of the face were greatly swollen. The swelling reached from the posterior border of the sterno-mastoid to a little beyond the middle line in front, and from the clavicle upwards over the jaw and cheek, as high as the lower eyelid. Over the cheek the swelling was soft and not tender, but below the border of the jaw it was slightly reddened, brawny, or œdematous, and tender just beneath the angle of that bone. No fluctuation could be detected anywhere. There was an ulcerated surface on the floor of the mouth beneath the left side of the tongue, and the patient complained of a bad discharge into the mouth. There was the usual distress due to great pressure on the parts beneath the deep fascia. As the induration extended over the middle line, chiefly in the supra-hyoid region, I made a median incision an inch and a half long, and of considerable depth, and then introduced a director through the fascia along the left side of the neck, but no pus was met with. The wound gaped very much, and the following day the report states: "There is much less swelling this morning." On the 29th I did not see the neck. On the 30th the neck had again become more swollen, the redness and œdema having spread as far as the right sterno-mastoid muscle; and as there was now a purplish spot of skin beneath the angle of the jaw, this was opened by the house-surgeon, and several ounces of fetid pus escaped. It was found, however, that the abscess cavity was rough, and "extended forwards to the middle line," as well as upwards towards the floor of the mouth. The following day (Dec. 31st) I passed a probe readily into the opening at the side of the neck, downwards and forwards, into a cavity which reached the middle line in the infra-hyoid region, and made there a short vertical incision. At first a drainage-tube, and subsequently a strand of horsehair, was passed from one opening to the other, and the case has since progressed favourably.

Now, in considering these four cases, it will be seen that the first and second were examples of diffused suppurative cellulitis, the first due to injury and infective poisoning from the pharynx, the second probably to some general condition of the blood. The first speedily gave rise to peri-pharyngeal abscess, which spread to the infra-hyoid region of the neck; the second began with the double interlobular suppurative parotitis, and thence spread to both sides of the pharynx, to the external auditory meatus, to the base of the tongue, and to the submaxillary, submental, and supra-hyoid regions. In both cases the free median incision, in the first case below and in the second case above the hyoid bone, gave immediate relief to the most urgent symptoms, stayed the progress of mischief, and in the second case was directly and mainly instrumental in saving life. The third and fourth cases are examples of acute lymphatic abscesses occurring deeply in or around the glands found beneath the angle of the lower jaw, excited by the absorption of infective matter from the mouth, and followed, the one by progressive suppuration, the other by a more active suppurative cellulitis, reaching forwards and downwards into the infra-hyoid region. In the third case the median incision reached the pus, arrested further evil, and was all that was needed for the cure. In the fourth case the supra-hyoid incision (evidently made twenty-four hours too early) relieved the tension and arrested the spread of the disease in that direction; the lateral incision emptied the centre of the cavity, which, however, extended so far downwards and forwards that the infra-hyoid incision was, after all, necessary, and would have been preferable, if performed on the previous day, for securing perfect drainage from the subfascial pouch there detected. Had this incision been made the day before, the lateral one would not have been needed.

As to the median incision here had recourse to, it is justified and required whenever and as soon as the lateral swelling and induration have passed close to or over the middle line of the neck, forming the sort of collar which grasps the deep parts, and produces the feeling of constriction or strangulation. Such an incision, I need hardly state, is, when available, simple, easy of execution, and safer than a lateral one; the pus is quickly evacuated, drainage is effectual, whilst the sterno-mastoids act as constant contractile compresses on the two sides.

In conclusion, gentlemen, I may remark, that in your future career you will all, though probably not very often, meet with cases in which your practice will be safely and beneficially guided by a remembrance of the present lecture.

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ABSTRACT
OF THE
# Lettsomian Lectures
ON
# BRONCHIAL ASTHMA.

*Delivered at the Medical Society of London in February, 1879,*

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## LECTURE III.
### TREATMENT OF ASTHMA.

EXPERIMENT and observation have proved how much the action of the lungs is under the influence of the pneumogastric nerve; and reflection on the course and connexions of this widely distributed nerve will help to explain why it is that our treatment of asthma must be varying in its nature, and cannot always be as certain in result as we could wish.

To cure asthma we often have to direct our remedies to organs other than those of respiration. The way to success may lie in the correct adjustment of a displaced womb, in the administration of a dose of extract of male fern to

destroy a tapeworm, or in a course of Carlsbad waters to eradicate gout from the system.

The capriciousness of bronchial asthma with regard to external influences is well exemplified by the effect of climate on the complaint. To many asthmatics the pure clear air of such places as Margate, Whitby, or Nice, is absolutely unbearable; and we find patients hurrying away from such climates, almost in terror of their lives if another night be passed therein. Dr. Salter has gone into the history of twenty-one cases of asthma powerfully influenced by atmospheric surroundings, and the outcome of evidence is conflicting and unpractical. Fourteen could respire with comfort only in the smoky air of populous cities; eleven, indeed, seemed cured by the air of London. Seven others were unable to live in close towns, and did best in the country. One patient of my own, a great sufferer from asthma at his house in the country, passed six weeks in Queen Anne-street, Cavendish-square, without experiencing a single attack of breath spasm. On returning home he was at once taken in the night with so alarming a seizure that he had to send urgently for his regular medical adviser. Another patient was glad to quit his well-furnished abode in the northern outskirts of London and take up his residence at his business premises in Cornhill, for there he could rest at night without fear of an attack of asthma. Those who have read Walshe's work on the Lungs will remember the instance of the man, sorely tormented with incurable asthma near Hampstead, who was absolutely cured by changing his residence to the more central region of Seven-dials. I once thought it might be the absence of ozone in the air of cities that renders it sedative to irritable air-tubes; but though experiment and observation clearly show that ozone produces catarrh, and even pulmonary inflammation, yet bad asthmatics have been known to make a voyage to Australia without experiencing any approach to a seizure the whole time, though the air was shown to be often highly charged with ozone.

Among remedial agents employed during a bad paroxysm of asthma, few are more universally known and employed than the smoke of burning nitre-paper. Ordinary blotting paper is soaked in a strong solution of nitrate of potash, and, when dry, is burnt till the patient's room is filled with a cloud of nitrous fume, and often it is not till the room is thus filled with smoke that the sufferer finds relief. As long ago as 1846 we find this use of nitre-paper highly extolled in the *Medical Gazette*; and in THE LANCET of April 5th, 1845, we learn how a friend of Mr. Harrison's tried burning paper that had been soaked in saturated solution of nitrate of potash, and felt the inhaled smoke to clear the passages and open the air-tubes, and so conduce to free and easy respiration. Though some amount of emphysema and bronchitis does not invalidate the action of the nitrous fume, yet it is in the spasmodic sudden attacks of breath stoppage where its curative action is most marked. The chemical constituents of the fume have been examined by M. Vohl, and he found the nitrous vapour to contain cyanogen, carbonic acid, nitrogen, ammonia, and nitrite of potash. To the ammonia and nitrite of potash the antispasmodic property of the fume is attributed. Noticing that the constituents of the nitrous vapour are closely allied to some of the adventitious matters found in the close air of towns, I went over Salter's table of 223 asthmatics to see if I could discover that those persons who are set down in the table as being notably relieved by the inhalation of the nitrous vapour were identical with those to whom town air proved so beneficial. I found that of twenty-one who are said to have been greatly benefited by the air of London, there were nine to whom the nitre-paper was of marked service. Two, who are reported as cured by the London air, found nitre-paper inhalations more serviceable than anything else. One patient, whose sufferings were intensified in London, reports that nitre-paper seemed to do harm rather than good. Probably it is to the ammonia and carbonic-acid gas that we may attribute the antispasmodic action of the burning paper. It has been shown by Trousseau how useful the inhalation of diluted ammonia can be in asthma, and Salter records a case where asthmatic spasm was at once stopped by breathing the vapour of diluted ammonia. The fact that the emanation from certain gas products is reputed good against the convulsion of whooping-cough, and that an asthmatical seacaptain could always breathe with facility when conveying a cargo of guano, are additional proofs of the antispasmodic action of ammoniacal vapour.

Among internal medicines that are good against spasmodic asthma, even when some degree of chronic bronchitis coexists, a high place should be given to the arseniate of soda. In a commencing dose of one-twentieth of a grain, either in pill or solution, this salt has a great power of promoting respiratory action, and appears, moreover, to act as a tonic to the system, for I have noticed patients to gain appetite and weight during its administration. The Bourboule water,[1] so beneficial as a drink for those subject to asthma, apparently owes its efficacy to a trace of arseniate of soda in its composition. Arsenic-smoking, by means of cigarettes containing from a quarter to half a grain of arseniate, is very comforting to those who suffer from hay asthma, or from ordinary spasmodic asthma, provided no feverishness of system or inflammatory action be going on. Dr. Wilks told me some time ago of a former patient of his at Guy's Hospital, who, in his trade as a bird-stuffer, used much white arsenic. This man was asthmatical and a smoker, and, when taken with one of his breath attacks, he usually added some of his white arsenic to the contents of his pipe, and speedily found relief.

Lately the iodide of ethyl has been employed as an inhalation in the treatment of asthma. Pure iodide of ethyl is colourless, but, after a while, it is apt to acquire a brown tinge, if exposed to the light, from the liberation of free iodine. Dr. Andrew and I have used this preparation in a few cases in the Victoria Park Hospital, and with beneficial result. In one case under my care a young woman had an asthmatic seizure every morning at 4 A.M. of some severity, but was eased much by the use of strong coffee. We gave her for a week ten drops of the iodide of ethyl on lint three times a day for inhalation, and at the end of the week she had lost her cough as well as her asthmatic attacks, nor did they show any sign of returning during the remaining three weeks of her stay in the hospital. My clinical assistant, Mr. M'Donald, was able to detect iodine by the starch test in the urine and expectoration of those who were inhaling the iodide of ethyl.

In two cases recently I have observed excellent effects follow on the employment of the citrate of caffeine. One patient was an eminent medical practitioner in a large town in the north. He had suffered most severely from paroxysmal asthma, and the utter failure of a list of approved inhalations and medicines (far too long to be here enumerated) was most distressing. Four grains of citrate of caffeine produced an undue degree of wakefulness, but one grain, taken regularly at bedtime, had a most happy effect indeed. So far as we can at present judge, it appears to have been really curative of the asthma. The last report says: "*Pari passu* with the asthma my cough and expectoration have gone, and I now have next to none of either." In another case a highly informed and observant patient of Dr. Kingsford's, who had found much benefit from the inhalation of iodide of ethyl for an asthma and bronchitis of twenty years' standing, tried the citrate of caffeine in two-grain doses every afternoon for a fortnight without any marked result. One day, however, being sadly worn out by a protracted attack of bronchial spasm which had lasted for eight hours, this patient took four grains of citrate of caffeine in coffee, with the effect of obtaining immediate relief to the spasm, followed by three hours' quiet sleep in his chair. The citrate of caffeine appears to allay the abnormal excitability of the nerve-centres, and then repose ensues as a natural result. I have seen similar calming effect from the use of nux vomica in bad emphysematous asthma, with failing pulmonary innervation, and this soothing and soporific action of remedies reputed 'nerve-tonics and stimulants in cases of great exhaustion of the nerve-centres is an interesting therapeutical fact, ably set forth by Dr. Milner Fothergill in his Fothergillian prize essay. The citrate of caffeine is not a new remedy. It has been employed in neuralgic headache and sickness for many years, and a friend of mine saw it given for asthma in Paris more than twenty years ago. Lately Dr. Lewis Shapter[2] has employed the citrate as a diuretic in cardiac dropsy. Like belladonna and atropia, caffeine appears to stimulate the respiratory and circulatory nerve-centres, and to increase the blood-pressure in the small vessels, so that it may prove an efficient diuretic. As such it may be employed in cardiac dropsy, where digitalis does not appear to agree. The citrate of caffeine, a fine specimen of which has been sent to the Society by Messrs. Corbyn, occurs in delicate silky

[1] See Notes on Asthma, fourth edition, p. 97.
[2] See Practitioner for January.

crystals soluble in water, but best administered in a small cup of coffee. The dose may commence with one grain and extend to four or five.

Space does not allow me to dwell further on the subject of the treatment of asthma. In old-standing emphysematous asthma it is important to relieve any abdominal plethora and congestion of liver; and when this is done by means of saline aperients, Carlsbad salts, and abstinence from all forms of alcohol, then great benefit will often follow on the use of small doses of the extract and tincture of nux vomica. I have repeatedly proved the value of nux vomica and strychnia in cases of emphysematous asthma, with very prolonged expiration, and apparent tendency to paralysis of bronchial muscle. It is in cases of old emphysematous asthma that the compressed air bath is so much commended. My experience of this mode of treatment is not very great. I have known a well-arranged compressed air-bath perseveringly tried by a youthful subject of bronchial spasm, whose heart and lungs as yet manifested no sign of structural change without any beneficial result. In the case of elderly persons with overfilled lungs, long weak expiration, and tendency to obstruction of the circulation, I certainly think the bath is worth a trial. In one case of this description a free expectoration came on under the influence of the compressed air, and in another the effect of the bath was to cause tranquil and refreshing sleep. One great effect of the compressed air-bath I consider is the production of more perfect oxygenation of the blood, hence its very marked effect in curing cases of obstinate anæmia. Coupled with this we may bear in mind the fact that the inhalation of oxygen gas has been found by Dr. Cayley and others of great service in relieving the dyspnœa of chronic emphysematous bronchitis, and also that Trousseau,[3] in treating some very severe forms of anæmia, found no remedy so powerful as the inhalation of oxygen.

## ON THE RELATION OF FILARIA SANGUINIS HOMINIS TO THE ENDEMIC DISEASES OF INDIA.

BY SIR JOSEPH FAYRER, K.C.S.I., M.D., F.R.S.

*(Concluded from p. 190.)*

IT is not within the scope of this paper to describe the diseases due to nematodes generally. I must restrict my remarks to those peculiar to filaria sanguinis hominis (Lewis).

Great advances have been made in our knowledge of this subject during the last four or five years in reference to the relation of this parasite to certain forms of tropical disease. It has been shown that disorders of the lymphatic system are most frequently associated with, if not caused by, the filaria; also nævoid and ordinary elephantiasis Arabum; perhaps also elephantiasis Græcorum,[1] chyluria, hæmaturia, hydrocele, and affections of the cord and testis, lymph varix and abscess, diarrhœa, fever, cachexia, deterioration of general health, certain skin diseases (craw-craw), deafness, eye disease. All these have been ascribed to it, though it is not asserted that they are *always* so caused. Being symptoms of impaired or impeded function, they may be produced otherwise; but it is tolerably certain that we have now got one explanation of their origin in a hitherto unsuspected agency. The mechanical action, were there no other effect, might explain much that occurs by the plugging and obstruction of the nutritive channels. To say nothing of the direct effects on the blood itself, one can hardly conceive that these organisms should exist in the blood, in any numbers, without affecting it prejudicially; and yet we know that they have been found in the blood of persons who were apparently healthy. Of course it is difficult to define any absolute standard of perfect health, and there may be a considerable amount of cachexia even in persons generally regarded as healthy, though perhaps, could we know their real condition, we might think otherwise. What the peculiar change in locality or action, on the part of the hæmatozoon, may be that determines the diseased condition, we are still ignorant, and this is just one of the points that needs elucidation.

We naturally ask if there be any analogy in the conduct of other entozoa in this respect, and in comparative helminthology also we look for guidance. Dracunculus may cause little or no annoyance in its earlier stages, but in developing, changing place, and discharging its embryos, the gravest results accrue. So trichina, which in its earlier stages is comparatively unfelt, may become the cause of fatal disease.

When the blood swarms with minute organisms, one might expect to find some evidence of their presence, either from mechanical interference with the blood or lymph circulation or from *direct action on the blood itself* or on the nerve-centres. Of the first we have an example in lymph-scrotum, elephantiasis, and chyluria; of the second I believe it is probable that several morbid states hitherto ascribed to other causes are due, and, judging from analogy, we may believe that this is so. We know how severely animals suffer from the presence in the blood of other minute organisms. Anthrax, for example, is produced by bacillus; a cholera-like disease in pigs is produced by the migration of stephanurus, as pointed out by Dr. Cobbold; phthisis in sheep by strongylus filaria; and in man, as shown by Griesinger, the so-called and widely-spread Egyptian chlorosis owes its origin to Dochmius duodenalis (Leukhart), and that not only anæmia, but liver disease and a form of dysentery, are produced by the same parasite, which is not very unlike filaria sanguinis hominis. "Similar facts," says Dr. Du Chaumont, "have been observed in Brazil, Arabia, Madagascar." It seems impossible but that in India the formidable affections caused by the dochinius should not be common. Manson and Lewis have shown that certain filariæ (F. sanguinolenta and F. immitis) infest dogs in China and India; they very closely resemble the human parasite, and give rise to certain diseases. Sonsino has demonstrated filariæ in the horse and crow in Egypt. In July, 1872, Lewis found in the exudation pressed out from the mesenteric glands of a pariah dog, in Bengal, a small embryo nematode, that very closely resembled the filaria sanguinis hominis, and corresponded to filaria sanguinolenta of Rudolphi. They were found also in connexion with the walls of the stomach and œsophagus, as had been stated by Czernay and others; in the walls of the blood-vessels (especially of the thoracic aorta); in the interior of fibrous tumours of from the size of a pea to that of a filbert or even walnut; on the walls and in the substance of the coats of the vessel there might be seen a pitted, or acculated, or atheromatous condition of the inner coat. There was also an enlargement and softening of the glandular structures near the base of the heart.

The tumours of the aorta afforded opportunity of studying the growth of the parasite from an early period up to maturity, as specimens of almost every stage of development may be found lodged in the walls of a single aorta. The parasite is found coiled up in the tumour. They are, immature, $\frac{1}{17}$ in. in length, $\frac{1}{170}$ in. in breadth; some smaller. When at this stage they moult. Further changes take place, and, by the time the worm has become three-quarters of an inch long, reproductive organs can be made out. It now gradually acquires a pinkish colour, and, instead of occupying a small tumour alone, it joins other worms in a larger

[3] Clinical Medicine, vol. iv., p. 55.

[1] I find in THE LANCET of Feb. 1st, 1879, that Dr. Bancroft has recently written to Dr. Cobbold that he has found filariæ in the blood taken from anæsthetic patches on the thigh of a European aged forty-nine, in Brisbane, suffering from leprosy. Dr. Bancroft also says that he has re-examined the blood of two patients who formerly had filariæ associated with abscess of the arm; their blood is now free from hæmatozoa.

tumour, each occupying a different tunnel. Sometimes they make their way outside. When mature the worm is from three-quarters of an inch to one inch long, and one-fortieth of an inch broad. The female is two to three inches in length. They were also found in the thoracic glands and stomach. The *ova* are oval, $\frac{1}{75}$ in. in size. When crushed an *inactive* embryo escaped. Lewis has a doubt as to habitat of these embryos—whether they are in the moist earth, the water, or the intestinal tube of some other creature. We have thus the opportunity of watching the development of the *sexually mature* worm. Manson made similar investigations on Chinese dogs, and found F. sanguinolenta associated with F. iminitis. The free embryos in the blood of such dogs are probably the progeny of either or both of F. immitis and F. sanguinolenta. It is said that F. sanguinolenta is oviparous, whilst F. immitis is oviviparous. F. immitis is larger than F. sanguinolenta. It is found in the mature form *in the heart* of the dog, and its broods of embryos swarm in the blood. Time does not permit of my dwelling on these canine filariæ. I have only done so, so far, in regard to their analogy with the human parasite, which probably, in its mature form, leads a similar existence, shedding its broods of embryos into the bloodvessels or lymphatics.

Dr. Manson describes the following diseased conditions in dogs caused by filariæ:—F. sanguinolenta gives rise to three serious morbid states—(1) stricture of œsophagus; (2) pleurisy; (3) paralysis of hind legs; caused by the presence of the worm in the tissues. Near the œsophagus, causing tumours—tumours bursting into the pleura—plugging of the capillaries of spinal cord by ova, and other affections, that may be produced by them in the intestines, kidneys, or other viscera. The F. immitis, on the other hand, affects the heart and lungs. By arrest in the lungs they give rise to tuberculoid disease—at all events, an infiltration resembling miliary tuberculosis; but more frequently they manifest themselves in the heart's action by interfering with the integrity of the valves or the capacity of the pulmonary artery in its branches. Death not unfrequently results suddenly, or of apnœa, failing circulation and respiration, ending in death. Such animals are short-winded, and liable to attacks of syncope; and one can readily imagine many other complications arising in one so affected, and it is said that two-thirds of them are so in climes where they frequently are the subject of *both* filariæ. Their mere *presence*, even in great numbers, does not necessarily produce symptoms of disease, and this is very remarkable when we consider the demand these creatures must make on, and the change they may effect in, the nutritive fluids. It is interesting to notice the action of other allied forms in man: e. g., trichina and dracunculus behave nearly in the fashion of F. sanguinolenta in the dog; they migrate, pierce the tissues, develop, burst, and give exit to embryos which set up irritation, perhaps induce fever and other secondary affections, to say nothing of those caused by their immediate presence; and yet there is a period in their existence, too, during which there is little, if anything, to indicate their presence. Recently we have learned from the French physicians, Drs. Normand and Bavay, of a new minute nematode from Cochin China — the Anguillula stercoralis and Anguillula intestinalis; the former found in the stomach, the whole length of the intestine, pancreatic and gall ducts, 1 millimetre in length, 0·04 mm. broad; the latter in the hepatic ducts, walls of gall-bladder, but less frequently than the former, but three times its length and sixty-five times its breadth. These are described as giving rise to dysenteric diarrhœa, which is very intractable, and often ends in marasmus. You will find a description of this parasite in the *Archives de Méd. Navale* of September, 1878.

We have still much to learn about these human nematodes, especially in regard to their mode of entering into the body, their locality, habitat, and the way in which they become sexually mature, where and when fecundated, and where precisely the embryos are let loose among the tissues, how they find their way into the blood and lymph-vessels, and the precise relation that these vessels bear to each other as carriers of the ova or the embryos. The subject is in the hands of competent observers, and we may look with confidence for a solution of much of what now seems obscure, especially from India, where post-mortem examinations apparently are more easily obtained than in China.

I have given a brief outline of the principal facts relating to the human blood filaria, and have alluded to some connected with its congeners that affect the lower animals, so far, at least, as they throw light on what is obscure in the human parasite. It remains to be shown what we already know and in what direction we are to look for further information.

I have said that filaria is frequently associated with, if not the actual cause of, chyluria and other disturbances of the lymphatic system. It is on this part of the economy, indeed, that its influence is specially exerted. Some years ago, in writing about nævoid elephantiasis, I said that I thought it probable that other forms of disease would prove to be due to filaria; and recent observations confirm the prediction. I repeated the observation in 1876 when writing on Sonsino's discovery of the filaria in Egypt, and almost daily proof is forthcoming that in it is to be found the explanation of much that has hitherto been etiologically uncertain. I believe that we are still only on the threshold of our discoveries in regard to this form of helminthiasis. When we consider how much has already been traced to this parasite, it is impossible not to infer that more will be revealed.

Dr. Bancroft suggests that the following conditions are probably associated with filaria: chyluria, hæmaturia, anæmia, tuberculosis, hydrocele with milky fluid, varicocele, elastic tumours in axilla and groin (helminthiasis elastica), lymph-vesicles bursting in scrotum and abdomen, skin disease (craw-craw), acute orchitis, lymphangitis with fever, erysipelatous lymphangitis leading to hypertrophy of skin (elephantoid fever in short), elephantiasis of scrotum and leg, contracture of lymphatic trunks with neuralgic pains, abscess of scrotum, of glands of neck (like struma), of the lymphatics of the arm and thigh, intra-pelvic abscess, peculiar steatoma of face, venous varix, cerebral abscess and other lesions of brain,—a long list suggestive of mechanical interference with the free passage of the nutritive fluids.

Manson's experience in China, and that of Lewis, McLeod, McConnell, Ewart, Carter, Palmer, and others in India, show that elephantiasis, nævoid and simple, are associated with filaria, and probably to these may be added other affections of the lymph system. My impression is that other morbid conditions, tropical cachexiæ, nervous disorders (paraplegia and others), inflammation of serous and gastro-intestinal mucous membranes, diarrhœa, and certain forms of dysentery may be due to it, directly or indirectly. Beriberi, anasarca, dropsy, albuminuria, hæmaturia, may, like chyluria, receive a new explanation. The vague chronic ailments that sometimes adhere to old residents in tropical or sub-tropical climates may in some instances depend on the past or actual presence of these hæmatozoa. There are certain forms of hydrocele, epididymitis, and inflammatory conditions of the spermatic cord and its appendages peculiar to tropical climates, that long puzzled me as to their etiology, that now begin to appear more easily accounted for. The tendency of the blood to form fibrinous coagula while within the walls of the living vessels and heart; the embolisms, thromboses, cardiac and pulmonary arterial pluggings; the arterial, venous, and capillary obstructions resulting in death; apnœa, gangrene, softenings, or ulcerations; that peculiar tendency in the blood of persons in malarial climates, notably Bengal, to form these fibrinous clots in the heart or pulmonary artery, so often fatal,—*may* too, in some measure, be referred to the same cause; not *always* surely, but possibly in some cases. I merely suggest it as worthy of consideration. The dogs in China die suddenly from the occurrence of interference with the heart's action due to filaria; whether to the direct mechanical interference or to altered conditions of the blood I cannot say, but what occurs in the dog may, from a similar cause, occur in man; at all events, I know from experience that men do so suffer and die in Bengal—whether they are filarious or not remains to be shown. Had I known of the existence of filaria when I had such cases, I should certainly have looked for it; and may it not be possible that such conditions as result from obstructed capillaries, boils, anthrax, local deaths of tissue, abscess, ulcers, whether of skin or other tissue of the viscera themselves, be so caused? The blood-vessels, too, may suffer from aneurism, varix, or some other condition of disease. In the dog they are so affected. So with stricture of the œsophagus, may we not, I repeat, in the present imperfect state of our knowledge, look for similar diseased conditions in man? Analogy warrants it, I think. Manson says that in the blood of 670 persons examined, of whom 195 were in apparently good health, he discovered filariæ 43 times associated with some morbid

state, and 9 times co-existent with the appearance of perfect health. Here is the list of what he found:—

| | |
|---|---|
| Elephantiasis of scrotum ... ... ... | 3 |
| ,, of leg ... ... ... ... | 1 |
| Lymph-scrotum and chyluria ... ... | 2 |
| ,, ,, and elephantiasis ... | 1 |
| ,, ,, and inguinal varix ... | 1 |
| Lymphatic inguinal varix ... ... ... | 7 |
| Ditto, coexistent with ulcer of cornea ... | 2 |
| Hæmatemesis ... ... ... ... ... | 1 |
| Cataract ... ... ... ... ... | 1 |
| Ulcers of leg ... ... ... ... ... | 4 |
| Hydrocele ... ... ... ... ... | 3 |
| Hydrocele and rheumatism ... ... ... | 1 |
| ,, and cataract ... ... ... | 1 |
| Rheumatism ... ... ... ... ... | 1 |
| Tumefaction of spleen ... ... ... | 1 |
| Fever and anasarca ... ... ... ... | 1 |
| Leprosy ... ... ... ... ... | 2 |
| Debility ... ... ... ... ... | 1 |
| Intermittent fever ... ... ... ... | 2 |
| Intermittent fever with spleen ... ... | 1 |
| Ditto with inflamed scrotum ... ... | 1 |
| Hydrocele and fever ... ... ... ... | 1 |
| Chronic eczema ... ... ... ... | 1 |
| Internal hæmorrhoids ... ... ... | 1 |
| Stricture of œsophagus ... ... ... | 1 |
| Heart disease and ulcer ... ... ... | 1 |
| Total ... ... ... | 43 |
| Free from apparent disease ... ... ... | 9 |
| | 52 |

It would seem that many forms of disease may be associated with, if not caused by, this parasite, in one or other of its genetic phases. It is necessary to be careful lest, in the enthusiasm of a new discovery, too universal application be made of it, and more ascribed to it than is its due.

Important questions arise out of the preceding considerations:—

1. Whence does filaria come?
2. What can we do to prevent or remove it?

The second question will be best answered when we are able to reply satisfactorily to the first; when we know the origin, and are assured of all the genetic phases—the whole life-history, we shall be in a better position to deal with it. Prevention is the first desideratum, but when infection *has* occurred we need some effective parasiticide, and it is not improbable that such exists! Perhaps carbolic or sulphurous acid, arsenic, or, it may be, some of the remedies that have proved useful as antiperiodics, febrifuges, may have owed some of their virtues to their antihæmatozoal properties. Secondary consequences, such as are described in Manson's list, may be treated on ordinary medical and surgical principles, which at present I cannot stop to describe.

The area of distribution of these diseases is said to correspond with the geographical distribution of culex. Where the mosquito is rare the diseases of filaria are infrequent, and the reverse. Manson advocates this view, and is impressed with the importance of the part played by the mosquito as intermediary host and propagator of the parasite. He certainly has grounds both in fact and analogy for his belief. Dracunculus employs the microscopic crustacean cyclops as an intermediary host. A second stage is thus, like that of filaria, passed in another creature; they both find their way, through the medium of water, back to man. He adduces an authenticated instance of importation of the disease of elephantiasis by a single individual into Barbadoes. The mosquitos sucked his blood, and with it embryo filariæ. They were thus disseminated, and the disease has been ever since endemic in the island where it was before unknown. I cannot affirm that the dissemination actually took place through the mosquito, but the rest of the story is authentic—the appearance in the island of elephantiasis on the advent of a particular individual. I believe Dr. Manson thinks the mosquito did it; and if that be not the real explanation, I know no other. In any case, whatever part the mosquito may play, the water must be regarded with grave suspicion, and the greater care observed in securing its purity; whilst in view of what we know of the mosquito, it is desirable that he should be kept from access to all water-supplies for either drinking or bathing, and that the water should be boiled before using. Sanitary science has already reduced the death-rate of our soldiers in India from 60 to 16 per 1000. May it here achieve further triumphs. It will be well, at all events, not only to insist on pure water, as it always does, but to keep its eye on mosquitos and other possible intermediary hosts. The usual way of getting rid of an entozoal pest is to interfere with its genetic cycle.

In concluding my remarks, I would say that I feel it is presumptuous to suggest any line of investigation. The discoveries of the filaria, and its relation to disease, are so complete as far as they have gone, that it seems hardly right to trespass on ground so originally and advantageously occupied. I know that I have most imperfectly represented the work already done, and the only justification I have for dealing with the subject at all is obedience to your behests, and that, having had considerable experience of the diseases ascribed to filaria, I am so far qualified to express my sense of the value of the light that has been thrown on a very obscure subject. I therefore esteem it no less a privilege than a duty to declare how much pathology is indebted for the knowledge gained. I am aware that the subject is still in its infancy, and that further research may modify much we now seem to know, but we are on a new and original track, and, if I mistake not, one that will lead to important results—new explanations of the cause of disease, new methods of prevention and treatment it may be—that will be as beneficial to mankind as they are honourable to those who pointed out the way to obtain them.

In congratulating ourselves that our countrymen abroad have taken so distinguished a part in these researches, and whilst giving all honour to our French, American, and Brazilian *confrères*, we cannot but feel satisfaction in remembering how much our distinguished countryman at home has done for the elucidation of this and all other forms of helminthiasis. His researches are, happily, well known throughout the scientific world. I wish I could add that they were as universally appreciated as they deserve. It has been the lot of other investigators that recognition of their labour has been long postponed, as it has been in Dr. Cobbold's case; but the time will certainly come—perhaps is now at hand,—when they will be appreciated at their real value. Meanwhile, he may feel the satisfaction of knowing that he has done great service to medicine; and I am glad of the opportunity of expressing not only my own personal obligation to him for valuable information often most kindly and freely given, but my admiration, which I know is shared by others, for the valuable information on the subjects that he and others—notably Lewis, Wucherer, Bancroft, and Manson,—have placed within our reach.

## SPASM OF THE CILIARY MUSCLE TREATED BY DUBOISIN.

BY SOELBERG WELLS, F.R.C.S.,

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SPASM of the ciliary muscle is far more common than is generally supposed, and it is surprising how frequently it is overlooked, especially when it occurs in hypermetropic eyes, in which case they are then often erroneously supposed to be myopic. It may, in very rare instances, be met with in emmetropes; but is most frequently observed in myopic and hypermetropic eyes. Moreover, a certain degree of spasm of the ciliary muscle (perhaps irregular and variable in degree) often occurs together with astigmatism, and then frequently masks the presence of the latter, which is only perhaps revealed after paralysis of the ciliary muscle by a strong mydriatic.

We should always suspect the presence of spasm of the ciliary muscle in myopia, if the latter has increased very rapidly and considerably in degree in a relatively short period, perhaps in the course of a few months. In such cases we find that after the patient has been reading, sewing, &c. for some time, symptoms of asthenopia (inability to continue reading or sewing for any length of time) manifest themselves. The eye becomes flushed and watery; the pupil is contracted; there is pain in and around the eye,

accompanied perhaps by a peculiar sensation of fulness and tension in the latter. On ophthalmoscopic examination the optic disc generally appears hyperæmic, and the retinal vessels are full and tortuous. There are, moreover, very frequently marked fluctuations in the state of refraction (the degree of myopia) at different times of examination. With regard to the asthenopia we should always remember that it is frequently (especially in short-sighted eyes) in part due to insufficiency of the internal recti muscles, and we should therefore never forget carefully to test the patient's power of convergence when the object is approximated closely to the eye.

It is chiefly in the medium degrees of myopia that spasm of the ciliary muscle occurs, and especially in young persons who have employed their eyes very much in reading, sewing, engraving, &c., particularly if they have at the same time used very powerful concave glasses. If such cases are treated by the instillation of a strong solution of atropine or duboisin (four grains to one ounce of water) four times daily, we find that as the spasm of the ciliary muscle yields, the degree of myopia soon diminishes, and the far point recedes farther and farther from the eye, and considerably weaker concave glasses suffice to neutralise the myopia. The effect of the mydriatic is often greatly assisted by the occasional application of the artificial leech (Heurteloup) to the temple, especially if there is much hyperæmia of the optic disc and retina.

But the cases to which I would direct special attention are those in which spasm of the ciliary occurs in hypermetropic eyes, for here it is but too often mistaken for myopia. Of course there is more or less contraction of the ciliary muscle in hypermetropes, whenever there is a difference between the manifest and latent hypermetropia; but these are not the cases I allude to, for they do not present the symptoms of myopia; whereas the patients I am referring to always come to us with the complaint that they are getting short-sighted; that whereas perhaps a few months or years ago they could see remarkably well at a distance, they have found themselves latterly growing more or less rapidly myopic. This spasm of the ciliary muscle occurs chiefly in young hypermetropes, who have used their eyes very much in reading, sewing, &c., without the aid of convex glasses, this constant strain of the accommodation finally producing spasm of the ciliary muscle. Besides the complaint of becoming rapidly short-sighted, such patients suffer likewise from more or less marked symptoms of asthenopia. On examining the eyes, we generally find that they show the hypermetropic conformation, being small, flat, and short in the antero-posterior axis; the anterior chamber is shallow, the pupil small, the iris somewhat arched forward from the increased curvature of the lens, and with the ophthalmoscope we find perhaps hyperæmia of the optic disc and retinal vessels, and occasionally a posterior staphyloma. Besides this, we find that there are very marked variations in the state of refraction at different times of examination, the patient sometimes preferring one concave glass, sometimes another. On testing the patient's sight we find that he is generally obliged to hold small print close to his eye—his far point for No. 1 Jaeger lies perhaps at eight inches from the eye, and we may therefore suppose it to be myopia of $\frac{1}{8}$; but on trying the eye at a distance, we find that instead of concave 8[1] (which would be about the number of the glass required if it were really a case of myopia) for seeing distinctly at a distance $V = \frac{1}{12}$, he requires only a very weak concave glass—e.g., $\frac{1}{36}$ or $\frac{1}{48}$. Now this great discrepancy between the distance of the far point (eight inches), in reading, and the concave lens required to bring his distant vision up to the normal standard (concave 30 or 40) should at once arouse our suspicions as to its being a case of spasm of the ciliary muscle, and we should at once proceed to examine the refraction of the eye with the ophthalmoscope. In doing so we use the direct mode, and tell the patient to look vacantly straight before him to a distance of twenty-five or thirty feet, if possible; but he must be careful not to "fix" any object, otherwise he will not be able thoroughly to relax his accommodation. On examining him in the erect image at a few inches distance from the eye (supposing that he is relaxing his accommodation completely), we diagnose at once by the movement of the retinal vessels that the eyes are hypermetropic (for they move in the same direction as our head, whereas in myopia they move in the reverse direction). The degree of hypermetropia can also be determined by means of the erect image, care being taken that the patient always looks far afield, so as, if possible, to relax the accommodation entirely.

The best treatment for such cases is the paralysing of the ciliary muscle by the instillation of a strong solution of atropine (four or six grains to the ounce of water), or, still better, of duboisin, four or six times daily. When the muscle is completely paralysed, we must carefully ascertain the real degree of hypermetropia (perhaps we may now also find that there is some astigmatism), and order the patient those convex glasses for distance and reading which neutralise the hypermetropia,[2] continuing the use of the mydriatic once or twice daily for some time if the patient will submit to it. We but too often meet with great difficulties on the part of the patients, who frequently strongly object to wearing convex glasses for distance, and even perhaps for reading or sewing; but, unless this be done, spasm of the muscle is almost sure to recur. Nor can we often persuade them that they are not really suffering from myopia. In some of these cases I have frequently had to make a compromise with the patient, ordering him convex glasses to read with, so as more or less to relieve the asthenopic symptoms, and permitting him the occasional use of the weakest concave glass which suffices for distance.

In other cases we fail in paralysing the ciliary muscle completely, even when a strong solution of atropine (or even the latter in substance) has been applied to the eye for several weeks, or even longer, as it then but too often sets up severe conjunctival irritation, granulations, eczema of eyelids, &c., even before complete paralysis of the muscle has been effected. Indeed, in severe and long existing cases of spasm, we but seldom gain complete paralysis, and the question is whether perhaps this may not be due to the circular fibres of the ciliary muscle (which Iwanoff has shown to be always much developed in hypermetropic eyes) have not become greatly hypertrophied and contracted, so that they cannot relax beyond a certain point. As atropine so often sets up great irritation before having paralysed the muscle, it was with much interest that ophthalmologists heard of the discovery of the very powerful mydriatic properties of duboisin, as likely to prove of great service in such cases, and further experience has more and more borne out these expectations.

Duboisia Myoporoides is an Australian shrub, supposed to belong to the order of Scrophulariaceæ, the extract of which, when applied to the eye, rapidly dilates the pupil and paralyses the ciliary muscle, as was first discovered by Dr. Bancroft of Brisbane, who read a paper upon this subject in October, 1877, before the Queensland Philosophical Society. His experience was verified by Dr. Fortescue of Sydney. In Europe its action was first tried in the autumn of 1877 by my friend and colleague Mr. Tweedy, to whom Dr. Fortescue had sent some of the extract. Mr. Tweedy made numerous experiments with it, and found that it exerted a very rapid and powerful effect in paralysing the constrictor pupillæ and ciliary muscle, being considerably more powerful in its action than atropine. He gave some of the extract to Dr. Ringer to test its physiological action on the lower animals and on man. The results which he obtained, together with an account of Mr. Tweedy's experiments, are embodied in a very interesting paper published by the latter in THE LANCET of March 2nd, 1878, in which he also gives a brief summary of Dr. Bancroft's paper. Its alkaloid seems to have been discovered almost simultaneously by Mr. Gerrard of London, who read a paper on it before the Pharmaceutical Society of London, April 3rd, 1878 (*vide* their Transactions of April 6th), and by M. Pétit of Paris, who on the same day read a paper on the same subject before the Academy.

As I had so frequently found that atropine set up irritation before completely paralysing the muscle of accommodation in spasm of the latter, and its use had therefore to be desisted from, I have recently used duboisin in such cases with the most marked and favourable results, as its action is much more powerful and rapid than that of atropine. And as all ophthalmic surgeons must have experienced the same diffi-

[1] As some of my readers may not be conversant with the metrical scale of test lenses, I have purposely not adopted it in this paper.

[2] For the proper method of selecting glasses in hypermetropia, I would refer the reader to my work on Diseases of the Eye; and I would strongly recommend the perusal of Dobrowolsky's very valuable paper on Spasms of the Ciliary Muscle, in Zehender's Klinische Monatsblätter (Beilage heft), 1868. He was the first to discover the true nature of this apparent myopia, of which he gives a most interesting account.

culty with regard to the latter drug, I have not hesitated to bring forward my experience of duboisin in this preliminary notice, in order to recommend its use most strongly to the profession. I purpose shortly to publish a fuller account of the action of duboisin both in affections of the accommodation and refraction, and in other diseases of the eye. A four-grain solution of duboisin produces a much more rapid dilatation of the pupil and powerful action on the muscle of accommodation than a solution of atropine of the same strength. The pupil in a normal eye becomes dilated *ad maximum* in ten to twenty minutes, the accommodation (if there is no spasm of the muscle) paralysed in twenty to forty minutes, this lasting for three or four days.

In order to illustrate the difference in the action of atropine and duboisin, I will very briefly cite the following case, reserving others for a future communication.

Miss A—— consulted me on Oct. 12th, 1878, for the right eye. She had noticed that she had been very short-sighted with this eye since the previous June, the other being quite normal; probably, however, this supposed myopia had existed much longer, only she had never before tried each eye separately. On examination I found that in reading Jaeger 1 the far point lay at 7 in. At a distance she could not decipher $\frac{1}{12}$. Convex glasses made the sight worse, but concave 14 enabled her to read $\frac{1}{12}$. I therefore at once suspected spasm of the ciliary muscle, and found this verified by the ophthalmoscope, the retinal vessels (when the patient looked vacantly before her) moving distinctly in the same direction as my head. The real degree of hypermetropia was about $\frac{1}{12}$. The left eye was also hypermetropic, but read $\frac{1}{12}$; the manifest hypermetropia = $\frac{1}{12}$, the latent about $\frac{1}{12}$. Curiously enough, she had never had any asthenopic symptoms. It is also very rare to have both eyes hypermetropic, and the spasm confined entirely to the one eye. I prescribed atropine (four grains to one ounce) four times daily to right eye, and complete rest of both eyes.—Nov. 1st: Concave 39 enabled right eye to see $\frac{1}{12}$. To continue atropine.— Nov. 18th: Concave 48 sufficed to render V = $\frac{1}{12}$, but for the last four days the eye had become very irritable, watery, and painful, after every instillation of atropine; had therefore to be desisted from. In five weeks' use (Oct. 12th to Nov. 18th) the apparent myopia had only been reduced from $\frac{1}{7}$ to $\frac{1}{12}$. I may mention that in testing the sight we must always be careful to make the patient look through a small stenopaic hole, so as to obviate the confusion produced by circles of diffusion on the retina from the widely-dilated pupil. The symptoms of irritation having quite passed away, I applied on Dec. 14th a solution of duboisin (four grains to one ounce), which Messrs. Bell and Co., of Oxford-street, had obtained for me from M. Petit (Pharmacie Meilhac, Paris), at 11.30 A.M. Before its use I tried the right eye again, and found that the spasm was as great as ever; concave 14 being required to enable the patient to see $\frac{1}{12}$. At 2 P.M. (when the patient called again) the pupil was very widely dilated, and the spasm had already yielded somewhat, for with −18 she saw $\frac{1}{12}$. In order to test the relative effect of the atropine and duboisin, the latter (four grains to one ounce) was used *twice* daily, whereas the atropine had been used *four* times. Dec. 16th: −30 $\frac{1}{12}$. 19th: −50 $\frac{1}{12}$; without a concave lens, $\frac{1}{12}$. 28th: Without any concave lens, $\frac{1}{12}$. Jan. 4th: $\frac{1}{12}$; with convex 48 letters of $\frac{1}{12}$ (now the hypermetropia began to become evident). 13th: +36 $\frac{1}{12}$. 20th: +24 $\frac{1}{12}$; without + glass, $\frac{1}{12}$. The patient was now ordered to use the duboisin four times daily. Jan. 30th: +18 $\frac{1}{12}$; without + lens, $\frac{1}{12}$. But within the last two or three days the duboisin had begun to set up slight conjunctival irritation, and is therefore to be desisted from, but it passed off much more rapidly than that due to atropine. The patient is to wear +16 for reading with both eyes, which she does with comfort. I have not ordered at present + glasses for distance, as I want to watch if the spasm returns. As soon as this is the case, I should order +16 for the right eye for distance and reading, to be increased if not powerful enough; and a weaker convex lens for the left for distance, the strength of which is to be gradually increased until, perhaps, the whole of the latent hypermetropia is corrected.

In this case we see that a solution of duboisin, of the same strength as the atropine, but used only half as frequently, in five weeks (Dec. 14th to Jan. 20th) not only cured the myopia, but brought out the latent hypermetropia to $\frac{1}{12}$; whereas in the same time (Oct. 12th to Nov. 18th) atropine used twice as often had only slightly affected the spasm of the muscle, reducing the apparent myopia from $\frac{1}{7}$ to $\frac{1}{12}$. In similar cases I should always order the duboisin (four grains to one ounce) to be applied four times a day, for very probably it would cure the spasm before any symptoms of irritation are produced. With regard to this, I may mention an interesting fact. A gentleman consulted me on Jan. 22nd, 1879, with a vascular ulcer of cornea, for which he had just been treated in Berlin. On his return a relapse occurred, and I prescribed atropine, which soothed the eye for three or four days, but then set up considerable conjunctival irritation. On inquiry, I found that latterly it had done the same in Berlin. I then prescribed duboisin with the best possible results; the irritation rapidly passed away, and the patient expressed himself greatly relieved by its use. I have found the same in other cases of corneitis accompanied by pain and much redness; also in cases of iritis, as the duboisin acts more rapidly and powerfully in dilating the pupil and tearing through any existing posterior synechiæ. Whether or not it may awaken glaucomatous symptoms (as atropine undoubtedly does) in eyes which are predisposed to this disease, or have already shown premonitory symptoms, I have not at present had any opportunity of determining. In cases of spasm of the ciliary muscle, I should strongly urge the substitution of a strong solution of duboisin (one grain to two drachms four times daily) for atropine, as its effect is so much more rapidly powerful, and as atropine so frequently sets up irritation even before it has had much effect on the spasm, and much valuable time is lost, and our end often not even gained.

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## NITRO-GLYCERINE AS A REMEDY FOR ANGINA PECTORIS.

BY WILLIAM MURRELL, M.R.C.P.,

LECTURER ON PRACTICAL PHYSIOLOGY AT WESTMINSTER HOSPITAL AND ASSISTANT-PHYSICIAN TO THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST.

*(Concluded from p. 187.)*

THE second case was that of Mrs. H. S——, aged fifty-three, who first came under observation in January, 1878. She is a married woman and the mother of eight children. She complained of a "strange sensation" in her chest, over her heart, coming on in fits several times a day. It was not a pain, she said, at least not an ordinary pain; it was something more than that—it was "just as if the life were going out of her." The attacks would last only two or three minutes at a time, but she seemed as if she could not get her breath, and they frightened her. She could just say "Oh dear!" or something like that, but nothing more. She would usually put her hand over her heart and press hard, and that seemed to relieve her. She feels quite cold during an attack, and her friends tell her she gets pale in the face. The sensation is referred to a spot corresponding in situation to the point of maximum intensity of the heart's beat. It always keeps in the same place, and never flies to the shoulders or runs down the arms. In the intervals of the seizures she is perfectly well. There is no flatulence, nausea, vomiting, numbness in the arms, or vertigo, and the attacks are not followed by any discharge of urine. Patient never has an attack when quiet. The slightest exertion will bring one on; going upstairs will always do so, and even if she goes up very slowly she is sure to get an attack. She does not often get them on level ground, unless walking fast, and then she gets them. Going up-hill brings them on much more readily than walking on level ground. She can always tell, she says, when the ground is rising; she knows directly. Shaking up a bed will bring on the pain at once. She dare not do it now, and that is a great bother to her. Any little exertion is enough, as, for example, putting on her jacket or reaching up to the clothes-line. Stooping down to lift anything brings them on, but not simply stooping down, as in pulling on her boots. Leaning back is certain to bring them on; the least excitement will do so—in fact, anything that worries or upsets

her. They are not in any way influenced by food. Cold feet will not bring them on, nor will a hot room. These attacks commenced at the beginning of last summer (1877), but were not so bad as they are now. They worried her a good deal, lasted on and off for two or three months, and then went away. She cannot tell at all what brought them on. They returned on the following November, and have been getting worse ever since. Now she usually has seven or eight attacks a day, but the number depends very much on what she has to do. For some time past they have been gradually increasing in frequency, and are now far more readily excited than formerly. Her general health is fairly good. She has had a bad cough every winter for the last eighteen years. What with the cough and the children, she has never been very strong. She has never suffered from gout or anything like it. Patient's father died of gout and bronchitis. He had suffered from gout since he was twenty-one, and had large chalk stones. He was addicted to drink all his life more or less. His father and brother died of asthma. Patient's mother died in confinement, and she has no brothers or sisters. She lost one of her children from bronchitis and another from consumption. None of them ever had fits or St. Vitus's dance. On a physical examination, marked arterial degeneration is noticed. There is slight emphysema. There are no signs of aneurism and none of valvular mischief. Urine normal.

Here, again, little doubt was entertained respecting the diagnosis. It was not a typical case of angina pectoris perhaps, but it assimilated more closely to that type of disease than to any other. There could be no doubt about the reality of the patient's sufferings.

After a preliminary course of camphor-water, the patient commenced taking the nitro-glycerine on Feb. 4th. She was ordered one drop of the one per cent. solution in half an ounce of water every four hours. In three days she reported that the pains had occurred less frequently; that they did not last so long. The pains were much shorter, and "there was a good bit of difference." She complained that the medicine had given her "such a strange sensation." It gave her "a kind of pain inside her head," and brought on a throbbing across her forehead just where the hair begins. After each dose she felt powerless for about ten minutes, and had to sit down, feeling that she could not do anything. The dose was then increased to four minims every four hours, and this gave very marked relief to the anginal symptoms. The pains, she said, were very much better, and a dose of the medicine would always cut them short, almost at once; they were less frequent, less severe, and did not last so long. She was no longer afraid to hurry about the house, and was able to perform many little household duties that had been long neglected. She spoke very positively as to the good the medicine was doing her, but at the same time complained that it affected her most powerfully. The throbbing in her head after the dose was very strong, and lasted nearly twenty minutes; it was accompanied by a darting pain, and she felt cold all over; she had to sit down, and could do nothing as long as it lasted.

The patient continued to improve, and on Feb. 21st she said she had taken a long walk the day before, not only without difficulty, but with pleasure. Under ordinary circumstances the exertion would have brought on an attack, and she would probably have had to return home. The attacks are now experienced only once or twice a day, in spite of her getting about much more; and they are very much slighter than formerly, not lasting half the time. She does not take much notice of them now, and no longer has to stop and put her hand over her heart. Some days she is entirely free from them.

Curiously enough, although the dose of the nitro-glycerine had been gradually increased to ten minims every four hours, the patient complained less of the throbbing in the head. During the following week the dose was increased, first to fifteen and then to twenty minims every four hours. The effect of the larger dose was very marked. She said the medicine made her "feel very bad"; she was afraid of it, for she felt it to her very fingers' ends. She throbbed all over—fingers, toes, and all. It affected her powerfully, and she had to sit down on the bed for nearly three-quarters of an hour after each dose. It caused noises in her ears just like the rushing of water, and made her feel cold all over. Sometimes it produced curious fits of gaping; she went on yawning and yawning, and seemed as if she would never stop. It never made her feel faint, and when it was over she felt quite well again.

The dose of the medicine was now gradually diminished, and on March 7th it was abandoned in favour of general tonics. The patient is still under observation, and, although she has slight attacks occasionally, they give her very little trouble. For the last eight months she has not had a single bad attack of pain.

R. A——, aged sixty-one, a painter's labourer, was first seen on April 11th, 1878. Complains of a pain in the chest, which comes on when he walks. The pain is referred to the mid-sternal region, and is said to cover an area about the size of a teacup. It is a dull, heavy, tight pain. It begins in the chest, and then passes through to between the shoulders. During severe attacks it sometimes runs down the left arm as far as the elbow; it never extends to the lower extremities. It is excited by exertion, and chiefly by walking. It comes on suddenly, and he is obliged to stop and wait till it goes off. He may have to stop for a minute or two, or even longer. It often returns when he starts again. When walking it may come on several times in the course of half an hour, until at last it brings him to a full stop. If he walks fast it will bring it on, and so will going up hill. His ordinary work does not excite it, nor does stooping. He gets it chiefly morning and night, going to and returning from work. Has not noticed that it is more readily induced after meals, and does not think that food influences it in any way. When pain comes on he gets pale, so his friends tell him. Does not feel anxious, and the attacks do not frighten him at all. They are not accompanied by palpitation, but during the attack he feels "very full," "as if he must burst," or "as if his chest wanted moving." Patient has "knocked about a bit in his time," but has been "fairly steady." First he was on a farm, then in the police, then a wheelwright, and now he is a painter's labourer. When in the police he was advised to resign on account of weakness of his chest, but does not think his chest was really affected, for he had no cough, and has always felt well and strong. Is subject to gout, and had his first attack about three years ago. No history of syphilis. Has been a great smoker for the last forty years; used to smoke an ounce or more nearly every night, especially when on night duty, and it was always shag tobacco, and the strongest he could get. He experienced his first attack twelve years ago, when working on the Thames Embankment. It was the same kind of pain as he has now, but it went off in a week or two. A year later he had a return of it, which lasted for a few weeks. Eight years ago a fire broke out, and he ran a mile and a half to fetch the engines. This brought on the attacks again, and he has had them more or less ever since. He has been getting worse during the last year, and especially during the last few months. On a physical examination, it was found that the pulse was irregular both in force and rhythm. There was some arterial degeneration, and a slight arcus senilis was noticed. No organic disease of the heart or lungs could be detected, and there were no signs of aneurism. Patient had a peculiarly anxious look, which was very noticeable. No albumen in the urine.

After a short course of camphor-water, patient was ordered a drop of the one per cent. solution of nitro-glycerine in half an ounce of water, to be taken every four hours. Four days later the patient reported that there had been a great improvement. The attacks were much less frequent, and that morning he had walked to his work without having a single seizure—a thing he had not done before for he could not say how long. The attacks at night, going home, were just as frequent, and he did not think they were less severe when they did come on. He had never taken a dose of the medicine when the attack was on him, so he could not say if it would cut it short. After each dose of the medicine he gets a pain at the back of the head, which comes on in about ten minutes and lasts half an hour. Says it is almost the same kind of pain as he has in his chest—"a heavy, dull pain"; no beating or throbbing; no pain across the forehead or at the top of the head. Sometimes gets a "choky sensation in the throat" after the medicine. A few days later patient called again, and stated that he was steadily improving. At this visit he was given a single dose of two drops of the one per cent. solution on a piece of sugar. It produced slight flushing of the face and a marked increase in the fulness of the arteries. The pulse, which had previously been 98, rapidly rose to 112. The flushing was in a few minutes followed by intense pallor, and patient complained of feeling faint. He had to be supported to the sofa, his pulse was found to be very feeble, and it was a quarter of an hour or

more before he was sufficiently recovered to stand alone. The patient was directed to continue the one-drop dose every four hours, and to take an extra dose when he felt the pain coming on. A week later he said he thought he was nearly well. For four days he had not had a single attack, although he had had a great deal of walking to do. When he felt any indication of the onset of the pain, he took a sip of his medicine, and it was all gone in a moment. He could walk to his work without the slightest difficulty, and even coming home at night gave him no trouble. The other day he walked the best part of a mile in a shower of rain quite briskly, and was none the worse for it. After each dose he experiences a pain at the back of the head and also over the forehead. A week later the dose was increased to two minims every four hours, and this was taken without difficulty. The medicine, he said, did not upset him at all. It had done him a deal of good, and he did not know what he should do without it. The dose was gradually and cautiously increased to eight minims every four hours. This was taken without difficulty, patient remarking that it did not upset him as it used to do. He was quite free from the attacks as long as he continued taking the medicine, but they returned immediately he discontinued it. He still attends at long intervals to report himself, but is practically well.

In the following case, of which an abstract of the notes is given, the administration of nitro-glycerine was attended with success.

L. B——, soap-maker, aged forty-two. Complains of pain in the chest on the left side, constant, but increased by movement, very severe at times, and occasionally so acute as to make him cry out; seems as if it would take his breath away; sometimes occurs between the shoulders as well, and not unfrequently runs down the left arm as far as the elbow. If walking, and the pain comes on, he has to stop, but only for a few seconds, and then goes on again. The pain is increased by stooping down, as in putting on his boots. Any movement, even turning in bed, will bring on the acute pain; but still he is never entirely free from it. He has it more or less all day, and acutely on moving. He has the very greatest difficulty in doing his work. Has been abstemious all his life; a smoker, but not consuming more than half an ounce of tobacco a week. Has had gout thirty times or more during the last twelve years. Has had winter cough for about the same time. Never had these pains until this year. Has been gradually losing flesh for some months past. Physical signs those of emphysema; heart normal; no albumen in the urine. The patient was ordered a gentian-and-soda mixture, and this he took for a fortnight without the slightest benefit. The medicine, he said, did him more harm than good. The local application of belladonna failed to afford relief. He was then given drop doses of the one per cent. nitro-glycerine solution in half an ounce of water four times a day. A week later he reported that he had felt relief on the first day, and had steadily improved ever since. He could stoop down without getting the old attacks, and could walk about almost as well as ever. He had not the slightest difficulty in taking the medicine. He remained under observation for some time longer, but there was no return of the pain.

In conclusion, I have to thank Dr. Ringer for his kindness in having frequently examined these patients, and also for many valuable suggestions.

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BEQUESTS ETC., TO MEDICAL CHARITIES.—Mr. Frederick Thomas Mothersill, of Bowdon and Manchester, bequeathed £10,000 to Owens College at Manchester, £5000 to the Children's Hospital at Pendleton, £3000 to the Barnes Convalescent Home at Cheadle, and £1000 to St. Mary's Hospital at Manchester. St. George's Hospital has become entitled to £4900 Three per Cents., under the will of Miss Mary Carlton. The Jessop Hospital for Women, Sheffield, has become entitled to £334, under the will of Mr. Henry Fisher, of Norwood Grange. The Westminster General Dispensary has become entitled to £100 under the will of Mr. John William Allen, of Carlisle-street, Soho. The Rev. William Adams, late rector of Throcking, Herts, bequeathed £500 each to the Leicester Infirmary, the Hertford Infirmary, and Addenbrooke's Hospital at Cambridge. The Infirmary, and the Eye and Ear Hospital, Bradford, Yorkshire, have each received 100 guineas under the will of Mr. Edward Sharp, of Bingley.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

### DIPHTHERITIC PARALYSIS IN A CHILD TERMINATING FATALLY.

(Under the care of Dr. CHEADLE.)

FOR the following interesting notes we are indebted to Dr. R. A. Gibbons, house-surgeon.

A. K——, aged six years and nine months, was admitted on Nov. 26th, 1878. The father died three weeks before of diphtheria, the mother living and healthy. Three other children living, but not strong, and three died when quite young. The patient was the eldest child living; had had no previous illness. Had been ailing between two and three weeks with cough and languor, and had been in bed part of this time, and got worse during the last week. On admission it did not complain of pain anywhere, and had no sore-throat, nor was there any expectoration with the cough. Appetite good; bowels regular. The child was delicate-looking, but moderately well-nourished. There was rhonchus over back and front of chest. Pulse 120, irregular, very small at wrist; impulse of heart slightly thumping; no murmur; cardiac dulness normal. The fauces were red.

The throat was examined daily, although he never complained of it. Nothing was noticed except some congestion, and five days after admission he was allowed to get up. (At this time it was not known that the father had died of diphtheria.)

On Dec. 4th the nurse observed that the boy could not stand properly in his bath; the limbs appeared weak.

On the 7th, on getting up, he walked very badly, staggered, and fell down. He was at once put to bed. On examination both legs felt very flabby; the right calf measured a trifle less than the left, and just above the knees there was a slight difference in favour of the left. As he lay in bed all movements were performed, but not with much strength. There was no loss of sensation; no pain anywhere. No prominence of, or tenderness over, any of the vertebræ. The grasp of each hand was rather feeble, but the right was much the feebler. The muscles of the arms felt flabby. Pulse 104, very small. No enlargement of glands in neck. Fauces a little red. He drank, and the fluid did not return through the nose. The voice was a little nasal. Temperature always below normal. There was some rhonchus over both backs; no dulness. Cough without expectoration. Urine not albuminous.

On the 13th the voice was much more nasal than before. Drinks did not return through the nose, but he was obliged to take a breath between each mouthful. He could not sit upright, held his head up very badly, and the muscles of head were weak. When lying down in bed could not raise himself to sitting posture. Pulse 108, irregular. Heart-sounds irregularly intermittent. He could raise either hand above his head. The grasp was feeble with left hand. The constant current, thirty-five cells (Leclanché's), did not produce any muscular action in the legs. There was no evidence of impaired sensation. He had a rather troublesome loose cough; air did not enter very well anywhere; inspiration did not seem full enough; there were some dry sounds with expiration.

On the 15th it was noted that he could not stand, and next day he could not raise himself off the bed. He had no power to sit up or hold his head up. There was no facial paralysis. The tongue protruded straight, slightly furred. The arms and hands were extremely weak. There was paralysis of sphincters. The chest expanded well, but depression of diaphragm on forcible inspiration was very feeble. There was impaired resonance at the left posterior base; the breathing was weak, and accompanied with a little râle at both bases. The heart's apex beat just beneath the

nipple; impulse forcible, felt also in second left space; action regular. Pulse 132; temperature 100°. Alæ nasi worked. There was a little loose cough, but the boy had not strength to spit up anything. The speech was very indistinct. Complained of dimness of vision; optic discs were natural.

On the 17th he was very feeble; asked to be turned on his side. Put out his tongue when told, but otherwise took no notice. Tongue moist, furred; protruded easily. Pulse 136; respiration 40, very shallow; temperature 101°. Heart's action regular; sounds natural, not weak; fine râles at left anterior base. No strength to cough. He could hardly swallow, whereas on the previous day could swallow meat. The soft palate flapped when he spoke; he was almost inarticulate. Very little descent of the diaphragm on inspiration. No paralysis of face or eyes. The breathing gradually became shallower and more laboured, and he died at 6 P.M.

Up till within a few minutes of death the face had been flushed since the morning, and he then suddenly became very pale, the heart, however, continuing to beat with considerable force till nearly the very last.

*Necropsy, twenty-one hours after death.*—Body rather thin; weight 36 lb. Neither the brain nor spinal cord presented any morbid appearances to the naked eye (set aside for further examination). The tonsils, pharynx, and larynx were natural. In the lungs there was a very little collapse of both posterior lobes. The heart was quite empty; the left ventricle hypertrophied; valves natural; weight, 4½ oz. There was nothing in the other organs calling for notice.

*Addendum by* Dr. GIBBONS.—Since the death of the boy, I have seen the mother, who stated that two of her other children have been affected in a somewhat similar manner, the signs of paralysis in both appearing about the same time as those of their brother. According to her statement, her husband, whose throat was very bad, died suddenly after being ill three weeks. He got out of bed, returned to it, and fell back dead. There are no unpleasant smells about her house, and she believes the drainage to be good. Of the children, a girl aged five complained of pain and difficulty in swallowing, but there was nothing to be seen in the throat. She then had increasing difficulty in walking, and staggered about considerably, so that she was at length confined to bed. About the same time indistinctness of speech came on, but the mother is quite sure the unsteady gait appeared *before* the indistinct articulation. Occasionally the child had squinting and apparent obscurity of vision. Her boy, aged three, has had precisely similar symptoms—staggering gait, indistinct speech, occasional squinting and dim vision, but never at any time complained of his throat. The mother states that although their speech was so indistinct that she could not understand what they said, in neither case did fluids return through the nose. She cannot say as to whether the arms in either child were weak. Both children are now (January) rapidly recovering, but still do not walk well, the girl being comparatively the weaker of the two. The case of the boy admitted into hospital is interesting, apart from the fact that even the mild form of paralysis occurs more usually as a sequel to the more serious local manifestations of the poison, as showing how the severe form of diphtheritic paralysis may appear after hardly any throat trouble at all, and how rapid may be its course to a fatal termination—in this boy only thirteen days from the commencement of the paralytic symptoms. It is also important to note that the two other members of the family in like manner escaped any visible throat affection, although they were attacked by paralysis, that the latter did not to any serious extent implicate the velum palati, and that in all three cases, contrary to what usually takes place, the paralysis of the lower extremities occurred before any peculiarity in the speech.

## WEST LONDON HOSPITAL.

### STONE IN THE BLADDER; RECTO-VESICAL LITHOTOMY; DEATH.

(Under the care of Mr. TEEVAN.)

SAMUEL C——, a labourer, sixty-six years old, was admitted on April 26th, having been put under Mr. Teevan's care by Dr. Pope, of Tring. From notes taken by Mr. Brown, the house-surgeon, it appeared that about seven years ago the patient began to experience pain and difficulty in passing urine, and was frequently disturbed at night to micturate. Six years ago he was attacked with retention of urine, for which he went to Dr. Pope, who relieved him night and morning for several days, and then sent him into the Aylesbury Infirmary. He remained in that institution for two months, and whilst there learned to pass a catheter and to relieve his bladder regularly twice a day. For about two years he had suffered great pain every time he used his catheter, and occasionally passed blood. A year and a half ago he was obliged to give up work. The patient was born at Watford, Herts. There was no history of stone in his family. He had never suffered from gout or rheumatism, but had been troubled with sciatica.

When the patient was admitted he was very thin and haggard-looking. He had only one tooth left, and appeared ten years older than he really was. He was always crying out with pain and rolling about the bed in agony. Every half-hour he was obliged to use his catheter, as the bladder was so irritable that it would only hold a couple of ounces of urine; and in order to introduce the instrument he had to insert his left forefinger into the rectum, where he usually suffered much pain, and passed flatus or fæces every time he used the catheter. At night he was so disturbed by frequent calls to urinate that he could only obtain a few minutes' sleep at a time. His urine was very offensive, full of muco-pus, and contained much albumen; its specific gravity was 1020. The patient was ordered large quantities of milk and morphia suppositories.

At 3 P.M. on April 28th Mr. Teevan introduced a sound, with some difficulty on account of the enlargement of the third lobe of the prostate, and struck a stone, apparently large, lying against the neck of the bladder. No accurate examination of the viscus could be carried out, as it was firmly contracted on the calculus. Rectal exploration showed that the prostate was much enlarged.

A consultation was held at 3 P.M. on April 29th, at which Mr. Bird, Mr. Teevan, Mr. Alfred Cooper, and Mr. Butlin were present. Although the case was looked upon as a very unfavourable one for operation, it was agreed that lithotomy afforded the patient his only chance of life, and, though the operation might fail to preserve life, it would relieve suffering. Mr. Teevan determined to perform recto-vesical lithotomy, as he considered that the extraction of the stone by that method could be effected with the minimum amount of putting, and would give the patient the best chance of recovery in his exhausted condition. The man having been cut under the influence of ether by Mr. T. G. Alderton, a rectangular staff was passed into the bladder, and, the stone having been struck, the instrument was given to Mr. Alfred Cooper to hold. Mr. Teevan then introduced a large speculum into the rectum, divided the thin septum between it and the urethra, and partially incised each side of the prostate with a probe-pointed bistoury. The speculum was then withdrawn, the left forefinger insinuated into the bladder, and the forceps introduced. As soon as the stone, which was about two inches in diameter, was grasped, it crumbled to pieces, which were removed one by one. The bladder was then washed out. The hæmorrhage, which was but slight, ceased before the patient was removed from the operating table. At 5 P.M. the man looked pale, and complained of pain above the pubes. There was no bleeding, and he took nourishment well. Pulse 130; temperature 98°.

April 30th.—8 A.M.: Patient had some sleep during the night. Tongue quite moist. Pulse 140; temperature 96°. About the middle of the day he began to sink, and died at 2.30 P.M., apparently from exhaustion.

The body was examined at 3 P.M. the next day. On opening the abdomen, distinct traces of peritonitis were to be seen on the small intestines, and a coil of the ileum was glued to the bladder by tenacious lymph. The peritoneum covering the bladder and lining the pelvis was considerably inflamed, and there was much more serum in the peritoneal cavity than proper. The bladder was contracted, thickened, and fasciculated. Its mucous membrane was studded with grey-looking patches, and smeared with dirty muco-purulent urine. The third lobe of the prostate was rather larger than a hazel-nut and pedunculated; the body of the gland was as big as a Tangerine orange. The lateral incisions had only sunk into about one-third of the substance of each lobe. The ureters were thickened and dilated. The kidneys were examined microscopically by Dr. Mahomed, who pronounced them to be the seats of interstitial nephritis. The left kidney weighed four ounces and a half, and the left one five and a half. In the lungs there were numerous old adhesions, and the aorta contained some atheromatous patches.

Mr. Teevan remarked that the patient's excruciating sufferings demanded an operation for their relief, and it would have been cruel not to have performed one. The peculiar advantages offered by recto-vesical lithotomy in the present instance were that it could be effected with the minimum amount of cutting, was attended by little bleeding, and was free from the risk of secondary hæmorrhage. The peritoneum could not be wounded if the incision into the prostate were made as in bilateral lithotomy. The opprobrium of the operation was that it so often left a fistula, which, however, was quite a secondary matter to the preservation of life, and was not beyond the surgeon's power to cure. He considered recto-vesical lithotomy to be specially indicated for the extraction of very large stones or for the removal of calculi from excessively debilitated subjects.

## NORTH STAFFORDSHIRE INFIRMARY.

### SURGICAL CASES.

FOR the following interesting notes we are indebted to Mr. W. A. Frost, F.R.C.S.

*Lacerated Wound into the Knee-joint; recovery, with movable joint.*—George T——, aged thirty-three, was engaged at work on the line, when he was struck on the knee by a passing railway-waggon. Lint, a back splint, and a bandage were applied on the spot, and he was seen at the hospital an hour and a half later. The patella was dislocated outwards, and over the centre of the joint was a jagged wound, two inches long, through which the finger could be passed into the joint, which was full of clots. There was a wound in the popliteal space four and a half inches long, exposing the fascia. The clots were removed, and the joint washed out with a solution of carbolic acid (1 in 20). The patella having been reduced, the wounds were closed with catgut sutures, antiseptic dressing applied, and the limb placed on a McIntyre's splint.

On the eleventh day passive motion was commenced and continued daily until the eighteenth. The splint was then discontinued, and the man allowed to move the joint slightly himself. The wounds were granulating and were quite superficial.

In the fifth week the wounds were healed; he could walk with a slight limp. There was a good deal of induration in popliteal space, so that the joint could only be flexed to an angle of 135°.

Five months after the accident there was slight lameness in walking, owing to inability to fully extend the joint, apparently in consequence of a little elongation of the ligamentum patellæ. Could flex to 100°.

There was very little constitutional disturbance. The night following the accident the temperature was 101·6°; it gradually fell, and reached the normal on the sixth day.

*Large "Loose Cartilage" in Knee.*—The movable body in this case was remarkable for its large size. It resembled in size and shape a patella with the apex rounded off. The patient was a man aged sixty, in feeble health, who was admitted with sympathetic ophthalmia. He could give no definite account of the first appearance of the "loose cartilage," but thought it had existed for "about twenty years." He had always suffered from rheumatic pains in his joints, especially the affected knee.

The joint could only be extended to an angle of 165°, and flexed to 115°. When the loose cartilage lay in the inner part of the synovial pouch (its usual situation) it gave him little inconvenience; but when it moved to the outer side it gave him great pain, and the knee became fixed in a slightly flexed position. The body could easily be moved from side to side, and, in moving, communicated to the fingers a sensation which was neither a crackling nor a grating, but something between the two.

The condition of the patient rendering any operative interference impossible, the loose body was fixed on the inner side of the joint by a leather shield.

*Absorption of Fat from one Orbit.*—Mary S——, aged thirty-seven, single, a cook. The contrast between the two eyes was most striking: the left was normal, but on the right side all the fat seemed to have disappeared from the orbit, and the eyelids having sunk in within the orbit, the margin of the latter was left standing out prominently; in fact, the eye resembled one belonging to a patient in the most advanced stage of emaciation. The sight of both eyes was normal and equal; the movements of the eyes were natural; fundus normal. The patient's general health appeared to be perfect, all the secretions and functions being natural. The other parts of the face were symmetrical.

Two years ago she noticed that in the evening the lower eyelid of the right eye used to become of a darker colour than the opposite one. Six months ago she noticed the eye "sinking into the socket." She thought she had lost flesh lately, but she appeared to be well nourished and in excellent health. No history of any other symptoms of any kind could be obtained; no history of injury. The patient remained under observation for a month, during which time there was no change in the appearance of the eye.

# Medical Societies.

## ROYAL MEDICAL & CHIRURGICAL SOCIETY.

### *Ophthalmoplegia Externa.—Case of Recovery from Leprosy.*

THE ordinary meeting of this Society was held on the 11th inst., Dr. C. West, President, in the chair. Two papers by Mr. Jonathan Hutchinson were read: one, an exhaustive analysis of symmetrical paralysis of the ocular muscles, or opthalmoplegia externa, comparable pathologically to progressive muscular atrophy, and generally referable to syphilis; and the other, an account of a remarkable case of recovery from true leprosy. The patient illustrating this was shown, and the discussion which arose turned upon the question of a fish diet being the cause of the disease. This view, it is well known, Mr. Hutchinson strongly holds; but it is a view which is as strongly opposed by others, and in the discussion it was forcibly contested by Dr. West, Mr. Macnamara, and Sir Joseph Fayrer.

A paper was read by Mr. JONATHAN HUTCHINSON, on Ophthalmoplegia Externa, or Symmetrical Paralysis of the Ocular Muscles. The author commenced by stating that the term ophthalmoplegia had been used by Graefe ten years ago in reference to the class of cases dealt with in this paper; and that more recently Eulenberg, writing of the same cases, had applied the appropriate adjective, progressive. The affection had not, however, he believed, received any notice from English writers. Most of its best marked examples occurred to adults who had suffered from syphilis many years before, but it had been recognised in connexion with inherited syphilis, and in some cases without any assignable cause. Its essential feature is bilateral paralysis of the external muscles of the eyeballs; and it sometimes proceeded to such an extent that the eyes were almost motionless in their orbits, and the patient compelled to move his head from side to side when he wished to change the direction of vision. A remarkable fact, however, is that the paralysis rarely proceeds to absolute paralysis, and rarely affects all the muscles in the same degree. Sometimes one or two wholly escape. The lids always droop over the eyes, giving to the patient the appearance of being half asleep; but it is seldom that there is complete ptosis. Opthalmoplegia interna and paralysis of the iris and ciliary muscle is often present also, but it may be wholly absent. In some cases the optic centres are affected, and blindness with white atrophy results. The facility with which the progress of the disease is influenced by iodide of potassium probably in large measure accounts for the frequent incompleteness of the paralysis, and for the circumstance that it does not always manifest progressive tendencies. In advanced cases the spinal cord is affected, and symptoms of locomotor ataxy are developed, or of other forms of paralysis. The author then proceeded to narrate in abstract the particulars of fifteen examples of the malady, thirteen of which had been under his own observation, and two under that of Mr. Waren Tay. In the

study of several of these cases he had to acknowledge the able assistance of Dr. Hughlings-Jackson, and in the only one in which an autopsy had been obtained Dr. Jackson was present at it, and the microscopic examination of the brain had been made with great care by Dr. Gowers. The following summary of the clinical evidence was appended:—"The facts are too few to admit of statistical analysis, but a brief summary may perhaps be useful. Of the fifteen cases four only occurred in females, and two of these were children. One of the males was a boy the subject of inherited taint, and the remaining ten were all adults. In eight of the fifteen it seemed certain that syphilis was the cause, in six acquired and in two inherited. Of the remaining seven it may be said that a reasonable suspicion of syphilis might be entertained in several. Had it not been for an almost accidental revelation of the truth in the case of the man S——, after prolonged fruitless investigation, I should certainly have asked the Society to believe that his was an example of the disease without any probability of syphilis. With such a fact in mind, one feels that it is almost impossible to make the negative even fairly probable. In Case 9 no direct question was asked, the patient being a single woman; in the two young children, although nothing could be proved, there were some suspicious facts, and one recovered under the iodide. The case in which evidence is most conspicuously absent is No. 13; but in this the patient is a young man, who may have denied the true history, or who may have either inherited a taint or had acquired disease in some irregular way of which he knew nothing. On the whole, the evidence which connects this affection with syphilis is exceedingly strong, and that which favours the belief that it can occur independently of it must be held to be open to some doubt. In five of the patients, all but one known to be subjects of syphilis, the optic nerves were affected, and blindness with white atrophy resulted. In two cases the fifth nerves were symmetrically affected, and in two there was slight affection of the facials. The almost constant escape of the facials must be held to be a remarkable fact. In one case the palate was affected, and in one—the same patient—smell was lost. None of the patients were deaf, and none had lost taste, and in only one was there any material anæsthesia of the skin of the face. In six cases the lower extremities were more or less weak and liable to pain, the condition approaching more or less closely to locomotor ataxy. I much regret that, owing to imperfect knowledge on my part at the time of their occurrence, the details of facts in reference to this disease are often incomplete. There can, however, be no doubt that ophthalmoplegia externa is sometimes a part of the general malady known as progressive locomotor ataxy, especially when that disease is due to syphilis. One of the patients became insane, and another was liable to attacks of violent mental excitement. Four of the fifteen are known to be dead, but of these a post-mortem was obtained in only one. In several cases, owing either to the blindness or the youth of the patient, it was impossible to estimate the state of the accommodation, but in a certain number it was proved to be perfect, in a few it was absent, and in a few it varied. The pupil never contracted, was almost always sluggish and of medium dilatation. In one well-marked case it acted fairly. In no single case was it very widely dilated. From these facts we may infer that the lenticular ganglion is often free from disease, and that the vaso-motor filaments, although often enfeebled, are not usually paralysed. It is difficult to make any confident statements as to the progressive tendencies of the malady of which ophthalmoplegia is a symptom. It is very definitely influenced for good by treatment, and in nearly every case specific measures were adopted. We may conjecture, however, from what happened in several, that in most instances it is an aggressive malady, and would end fatally if treatment were not resorted to. The effects of remedies in several of the cases were very remarkable, the patient being rescued from a very dangerous condition. At the time that most of the cases were under treatment, my opinions as regards the nature of the malady were far less clear than at present, and hence a hesitancy in treatment which was probably often prejudicial. The patients were benefited up to a certain point, but relapses occurred, and the remedy was not pushed sufficiently. It would seem that the iodide of potassium is by far the best means of treatment, and that it ought to be given over very long periods and in increasing doses without any limit as to precise quantity, excepting its effect on the symptoms. Although relapses are common, yet in several of the cases related a complete arrest appears to have occurred, no treatment having been resorted to for several years. In none, however, was the recovery complete."—Dr. BUZZARD said that there was at present under his care in hospital a young woman, twenty-five years of age, who contracted syphilis eight years ago, and who now was a marked instance of the affection described in the paper. She presents a symmetrical paralysis of all the orbital muscles on each side, with the exception of the left external rectus. The syphilitic history was interesting, and equally so was the fact that she was also the subject of locomotor ataxy in a pronounced degree. She had the ataxic gait, anæsthesia of the soles of the feet, sense of constriction in abdomen, loss of control over sphincters, absence of patellar tendon reflex, and further suffered from severe "gastric crises"—i.e., attacks of gastralgia, with nausea, vomiting, and sometimes diarrhœa. There was also wasting of the scapular muscles, particularly the rhomboids, of one trapezius, and one pectoralis major muscle. It was remarkable that all these changes should have been set up within two years and a half, and he thought the case bore out Mr. Hutchinson's suggestion that in "ophthalmoplegia externa" there is disease of the motor nerve nuclei of the eye parallel to that occurring in the anterior cornua of the spinal cord in progressive muscular atrophy; for this patient not only had the ocular paralysis conjoined with wasting of other muscles (exceptional in locomotor ataxy except as a late event) but had also those marked gastro-intestinal phenomena which might be attributed to lesions about the vagi nuclei.—At the suggestion of Dr. Duckworth, the Hon. Secretary (Mr. Holmes) read in detail the report furnished by Dr. Gowers upon the condition of the brain in the one fatal case recorded by Mr. Hutchinson, from which it appeared that the optic chiasma was grey in colour, but of firm consistence; the optic tracts somewhat degenerate; the third nerves contained very few healthy nerve-fibres, but many connective-tissue nuclei, and their roots could be traced in the crura cerebri as bands of fibrous tissue; whilst from the nuclei of these nerves the large multipolar cells had mostly disappeared. Of the fourth nerves no trace remained distinct from the fibrous tissue of the pia mater, and their nerve-nuclei were completely degenerated. The sensory part of the fifth pair was somewhat degenerated, and the sixth nerves were represented by fine grey threads, chiefly composed of fibrous tissue and relics of atrophied nerve-fibres, the nucleus in the pons being degenerate. The rest of the cranial nerves were natural. Small areas of degeneration were met with in the pons and medulla. The report concluded by pointing out that the degeneration of the nerve-roots and the disappearance of the nerve-cells in the nuclei precisely resembled the changes met with in the spinal nerve-roots and anterior cornua in progressive muscular atrophy.—Mr. HUTCHINSON was obliged to Dr. Buzzard for the account of his interesting case. The subject was of great interest from its bearing upon other nerve disorders, for in ocular paralysis the affections of various groups of muscles could be more easily studied than in paralysis in other regions. The cases proved also the occurrence of a sort of serpiginous inflammation affecting the nuclei of motor nerves, passing from one to the other, and that such an affection can and does occur in syphilis, and tends to spread to more distant parts. These facts were extremely important in their application to other forms of paralysis—e.g., labio-glossal paralysis—which also might owe their origin to syphilis. Nearly all, if not all, the cases of ophthalmoplegia he had narrated could be traced to syphilis, and he believed that the old view, which would associate locomotor ataxy with that disease, would be found often to be true. Such were the cases which were curable by iodide of potassium only, and he himself thought that all the cases he had related would have proved progressive if they had not been so treated, and they would probably all have ended fatally, as that case did in which the denial of syphilis was so positive as to cause him not to treat it with the iodide. He expressed his great indebtedness to Dr. Gowers for his careful and elaborate examination of the brain in that case.

A brief account was also read of a case of Recovery from Leprosy, by Mr. JONATHAN HUTCHINSON. The case was brought before the Society as an instance of complete arrest of the progress of true leprosy. There is still paralysis of one ulnar nerve, and many patches of skin are deficient in sensation, and there are permanent changes in the eyes. In other respects, however, the cure is complete, and the patient enjoys excellent health. The subject of the case

has been under the author's observation for twenty-seven years. She is a Jewess, born of parents who had lived only in England, of a family in which no leprosy taint existed. At the age of thirty-two she went to live in Jamaica, and twelve years later she returned, the subject of leprosy in a severe form; the tubercular and the anæsthetic symptoms were present in combination, areas of skin were dusky and devoid of sensation, one ulnar nerve was paralysed, and the face was covered with tuberous folds of indurated skin. She was for some time under treatment at the Hospital for Skin Diseases, then an in-patient under Dr. Addison at Guy's, and lastly at Moorfields. For the last twenty years she has considered herself well. The author expressed his belief that the cause of the recovery was the change of residence, and the element of importance in this the change of diet, and the especial article of diet in question *fish*. He did not believe that mere climatic influences, air, &c., had any share in the result, for in regard to leprosy it prevailed under the most varied conditions.—The PRESIDENT doubted whether Mr. Hutchinson's conclusion as to a fish diet being the cause of leprosy could be borne out by facts. In Norway, where the population live so largely on fish, leprosy was confined to certain districts only. Then there were certain monastic orders, where the chief diet is fish—and a good deal of this salted fish,—yet neither in old or recent times was leprosy known to prevail among them. Leprosy used to prevail in parts where a fish diet could hardly be obtained—e.g., the leper-houses of old in England existed in the interior as much as on the coast. Again, many peoples—e.g., those on the Mediterranean shores—live chiefly on fish, and yet among them leprosy is unknown.—Dr. GILBART SMITH said that when in Egypt, about the Delta, he found much leprosy to exist there, and learnt that it was a prevalent idea that the malady was received by eating diseased fish exposed to the rays of the tropical sun.—Mr. MACNAMARA pointed out that leprosy occurred largely among the natives in the Himalayas, as at Nepaul, where, owing to the few rivers, fish was very scarce and hardly ever eaten, whilst, on the other hand, the inhabitants on the banks of the Volga and the Don, who consume much fish, are quite free from leprosy. Then there was the case of the Sandwich Islands, which were free from leprosy until the immigration of the Chinese in 1836, since which time leprosy has prevailed. It could hardly be supposed that these islanders consumed more fish subsequent to than prior to that date. Nor would the fish-diet theory account for the occurrence of isolated cases, such as that recently recorded of a European resident in Queensland being attacked with the disease. Leprosy rather came under the category of endemic diseases, and it was not improbable that it had some connexion with the presence of filariæ in the blood.—Mr. HUTCHINSON was obliged to Dr. West for raising the question, although to state all his reasons would take up more time than could be given at that late hour, for each point ought to be answered in detail. Still, he would reiterate his belief that there was much in favour of his view. He did not mean that the mere consumption of fish was alone necessary, but of fish under certain conditions, so that it might be that only a small quantity would suffice to produce the disease. Speaking roughly, leprosy is prevalent where fish is consumed, and more prevalent in hot climates where the fish taken out of the heated waters rapidly becomes unwholesome. The leper houses of England were more numerous on the coast than inland—in Cornwall the last of the leper houses exists to this day. Then in Norway leprosy was *not* regarded as an endemic disease. The better class of inhabitants had no fear of it; they knew it to prevail only among the poorest, and those mostly fishermen or people who lived upon fish. Leprosy did not exist at Christiania, where the water is cold, so that it is frozen over for months in the winter; but at Bergen, on the west coast, which is warmed by the Gulf Stream, there exists not only the largest fish-market in the world, but also the largest leper-house. There were places in Spain where leprosy occurred supplied with salted fish from Bergen. The disease also existed in some isolated places on the Mediterranean coasts. The case of the Sandwich Islands might be explained on his view, for it was quite conceivable that the Chinese should have taken with them their habits of diet or cooking, and in that way planted the causes of the disease on the island. He had not yet found any of his Indian surgical friends believe in this hypothesis, but still he submitted that the evidence against it was not conclusive.—Sir JOSEPH FAYRER requested to be allowed to add a few words to the discussion. He said that if the eating of putrid and decomposing fish were a cause of leprosy, then the whole of the inhabitants of British Burmah and the Malayan Peninsula ought to suffer from leprosy, for that was their most favoured food. But leprosy was almost unknown in these countries; whereas it abounds in the Himalayas, where, as Mr. Macnamara had stated, fish-eating could not and did not prevail. A recent report showed the prevalence of leprosy in Kunmaun, where fish is very uncommon. Certainly in India leprosy was not due to a fish diet. Mr. Hutchinson was not alone in his belief, but for himself (Sir Joseph Fayrer) he would as soon believe that the remarkable case they had just seen (unique in his experience) had been cured by the port-wine and champagne she was said to have taken, as that her leprosy was due in the first instance to the consumption of fish.

The Society then adjourned.

## PATHOLOGICAL SOCIETY OF LONDON.

*Small Epithelioma of Lip, with Extensive Secondary Implication of Lymphatic Glands.—The Pathology of Infantile Paralysis.—Acute Myelitis in an Infant.—Warty Growths on the Tricuspid Valve.—Congenital Malformation of the Heart.—"Eczema Squamosum."—Early Synovitis of the Hip-joint.*

THE ordinary meeting of this Society was held on the 4th inst., Mr. Jonathan Hutchinson, President, in the chair. The feature of the evening was the exhibition of several excellent microscopical preparations of the spinal cord in infantile paralysis by Drs. F. Taylor, Turner, and H. Humphreys, fully illustrative of the pathology of that disease.

The PRESIDENT brought forward a man with a large ulcerating malignant tumour beneath the right side of the jaw, clearly of glandular origin; and with a small slightly warty growth on the lip, about the size of a fourpenny piece. The patient had known of this little warty growth on the lip for ten or twelve years, and it had been irritated by his pipe; and Mr. Hutchinson had no doubt that this was the primary disease. He had seen very small portions of primary cancer on the lip in connexion with extensive glandular disease, but never so small a primary growth as the present. It was a strong point in favour of the early and complete removal of any labial growth in the least suspicious in nature. The glands had ulcerated within the last four months.

Dr. FRED. TAYLOR exhibited a specimen of Spinal Cord from a case of Infantile Paralysis, and several microscopical preparations of the same. He remarked that it had now been known for some time that this disease, long spoken of as "essential paralysis," was really due to lesion of the spinal cord; but hardly any observations had been made in England on this point. The case he had brought was that of a child three years of age, who died in hospital from broncho-pneumonia. She had been the subject of infantile paralysis since the age of fifteen months, when she was brought to hospital with great pain and tenderness in the left leg, thought to have been due to a blow. The pain subsided after ten days, but the limb remained paralysed. No benefit was derived from galvanism, nor from magneto-electricity applied by the parents. Dr. Taylor could give no details as to the electrical reaction, nor as to the precise extent of the paralysis. To the naked eye it was obvious that the left half of the spinal cord in the lumbar region was entirely smaller than the right half, also that the anterior nerve-roots were appreciably dwindled, but not the posterior roots. Microscopical examination showed great diminution in number of the ganglion cells in the left anterior cornu; these cells were also smaller, more rounded, their processes ill-developed or wanting, and their nuclei less obvious than normal. The nerve-fibres also were greatly diminished in this region, and the substance of the cornu was composed of dense felted tissue of fine fibres, and the bloodvessels were thickened. No granule-corpuscles were visible. The posterior cornu on the left side, although

smaller than that on the right, did not present any difference in structure. The connective-tissue septa in the white matter of the left anterior columns were thickened, and the wasted anterior nerve-roots contained much fibrous tissue, and showed a notable deficiency in axis-cylinders. The ganglion cells in the right anterior cornu were very numerous. The lesion was limited to the lumbar region. There was marked degeneration of the muscles in the back and front of the thigh and also of those of the calf. The case was undoubtedly one of infantile paralysis, and the "blow" alleged to be its starting-point had probably nothing to do with its development.

Dr. TURNER showed a specimen of recent Acute Myelitis in an infant, with Softening of the Anterior Cornua, also illustrated by microscopical sections. The child, two years and a half old, was admitted into the London Hospital, under the care of Mr. Hutchinson, in December, 1877, and died one month after admission. Its history was that four weeks previously it had a fall, from the effects of which it soon recovered, to relapse, however, two weeks later, into a dull, apathetic condition, followed by complete paralysis of the arms. When admitted it was suffering from general motor paralysis, reflex movements abolished, loss of control over sphincters, and occasional pain in the head. Sensibility in the arms appeared normal. Two or three weeks later the child's condition improved. There was less torpor, and sensation was restored to the legs; but the evacuations were still passed involuntarily. Broncho-pneumonia following an attack of measles ended in death on January 24th. The spinal cord was carefully examined; it was tolerably firm, and to the naked eye appeared fairly natural, except that at the lower part of the lumbar enlargement there was a patch of red softening which occupied the whole of the anterior and invaded the posterior cornua of grey matter. Microscopically the changes met with in the lumbar region were those of intense myelitis tolerably generally diffused throughout the grey substance, but especially marked in the anterior cornua. The bloodvessels were ensheathed in masses of leucocytes, the ganglion cells and nerve-fibres were much destroyed, and numerous granular corpuscles and nuclei were observed in the softened area. In the dorsal region similar but less intense changes were met with, more on the right side than on the left, whilst in the cervical region the greater part of both anterior cornua were affected. Thus throughout the whole cord there was evidence of inflammatory change in the grey matter, having its chief seat in the anterior cornua, and characterised by a notable wasting and disappearance of the multipolar ganglion cells. There was also a considerable amount of sclerosis in the antero-lateral columns. Dr. Turner remarked that the changes corresponded with those described by Damaschino in recent infantile paralysis, of which he thought this case was an instance, showing the inflammatory nature of the affection, and justifying the term "anterior polio-myelitis" which had recently been applied to it. The perivascular infiltration was probably the primary change, to which the destruction and wasting of the nerve-substance was secondary.

Dr. HUMPHREYS (of Manchester) exhibited microscopical sections of the spinal cord from a case of Infantile Paralysis, the subject being a female child three years and a half old, who died of scarlet fever at the Hospital for Sick Children at Pendlebury, on May 20th, 1878. At the time of death she had a well-marked talipes calcaneus of the left side, with considerable wasting of the calf- and thigh-muscles, resulting from an attack of infantile paralysis when seventeen months of age. The spinal cord was firm, and on section it presented in the lumbar region a marked want of symmetry, the left half being considerably smaller than the right, and the left anterior cornu being very decidedly wasted. This asymmetry was found on microscopical examination to be due entirely to a diminution of the anterior and lateral portions of the grey matter on the left side. Dr. Humphreys had calculated that the number of large nerve-cells in the anterior cornua in this region was 171 on the right side to only four on the left, and these small and non-pigmented. The regions from which the nerve-cells had disappeared were much shrunken, so that the anterior cornua were greatly contracted. The vessels in the grey matter were apparently more numerous, and their perivascular canals more dilated on the left than on the right side, but no other changes either in the grey substance or in the anterior roots were manifest. Tables were drawn up showing the great disproportion existing between the numbers of nerve-cells of the various groups in the anterior cornua in different parts of the lumbar region, with the same general result of their extreme diminution on the left side. Examination of the dorsal and cervical regions showed no constant difference in the quantity of the nerve-cells on the two sides. Dr. Humphreys referred to a similar case, both with regard to the age of the patient and the duration of the paralysis, recorded by Parrot and Joffroy in the *Archives de Physiologie* for 1870-71, where, however, there was sclerosis of the anterior horns and lateral columns of the affected side, in addition to a marked wasting of the nerve-cells.

Dr. CROCKER showed a specimen of Warty Growths on the Tricuspid Valve, from a girl aged thirteen and a half years, who had never had rheumatic fever, but who had suffered from measles, scarlet fever, and chorea. She came into hospital with symptoms of advanced heart disease, general venous congestion, marked hypertrophy of the heart, a presystolic thrill at apex, and at base, to left of sternum, a diastolic thrill and murmur. Three days later the basic thrill was presystolic in rhythm. Passive pleural effusion and pulmonary œdema, added to general dropsy, took place before death. The heart weighed 12½ oz. Its right cavities were much distended, and the edges of the tricuspid valve were fringed with papillary vegetations one-eighth of an inch in length. The left auricle was also dilated, and the mitral orifice was reduced to a mere slit, one inch in length. The aortic valves were slightly incompetent. The lungs were extremely congested. Dr. Crocker remarked that the cardiac symptoms did not seem to have been associated with the chorea. Speaking of the tricuspid lesion, he pointed out that it occurred here (as is usually the case) secondarily to mitral stenosis; and in support of the great rarity of warty growths on the valve he mentioned that Dr. Sibson had only met with one case in twenty years at St. Mary's Hospital. An extreme and remarkable case is recorded by Dr. Morrison in the twenty-sixth volume of the Pathological Transactions. The great size of the heart in the present case was also noteworthy.

Dr. CROCKER also showed three specimens of Congenital Malformation of the Heart. The first was from a girl six years old. There had been reduplication of the first sound over the ventricles, whilst a faint blowing systolic bruit at the right base of the heart replaced a long and loud systolic murmur previously noticed. The heart weighed 4½ oz. The right auricle was dilated; the foramen ovale patent; the right ventricle of large size; the infundibulum small, and forming a separate cavity from the ventricular sinus. The ventricular septum was imperfect, an oblong aperture communicating between the infundibulum and the left ventricle. The pulmonary valves cohered to form a cone-shaped diaphragm, in which was an aperture the size of a crow-quill. The pulmonary artery was thin-walled and a third of an inch in diameter. The ductus arteriosus was patent, and the aorta arose partly from the right ventricle. The second specimen was from a boy two years of age, emaciated and cyanosed. The heart weighed 2½ oz.; the right auricle was large and dilated. A V-shaped aperture occurred in the "undefended space," and the infundibulum—distinct from the sinus of the right ventricle—communicated with a small thin-walled pulmonary artery by an aperture the size of a probe. The left auricle was normal, the ventricle slightly dilated. The aorta arose partly from the right ventricle, but the ductus arteriosus was closed. The lungs were much collapsed. The third case was that of a child seven months old, in whom cyanosis was first noticed two weeks after birth. There was no cardiac bruit, but the pulse was intermittent. There was patency of the foramen ovale, a rudimentary right ventricle, atresia of the pulmonary orifice, and a foramen at the upper part of the ventricular septum. Dr. Crocker mentioned a fourth case in which there was cohesion of the pulmonary valves, probably due to congenital syphilis. In reply to the President, he said that the evidence of syphilis was very marked in the mother, who had several abortions.

Dr. COUPLAND had placed on the table three specimens of Tricuspid Valvular Disease, all in females about forty-eight years of age. Two were instances of stenosis, one associated with mitral stenosis alone, the other with mitral and aortic stenosis. The third specimen was one of vegetating endocarditis, affecting the mitral, tricuspid, and aortic valves, in a case of renal disease. He mentioned that he had met with in four years (1873 to 1876 inclusive), at the Middlesex Hospital, six cases in which there were minute vegetations

on the tricuspid valve, but in no case unassociated with either old or recent endocarditis of the left side.

Mr. HOWSE exhibited a leg, recently amputated, affected with a condition of skin similar to that described as "ichthyosis hystrix." The condition was not, however, congenital, for it came on after disease of the knee-joint, commencing eleven years ago in a blow, which led to the formation of sinuses in connexion with the joint. Eight years ago the patient noticed considerable swelling and redness of the leg, which was followed by a general chronic eczematous condition of the skin, until the whole leg below the knee came to be covered with armadillo-like scales, beneath which the skin was very little altered. He thought the term "eczema squamosum" best applied to this condition, which perfectly resembled that reproduced in two wax models (which he exhibited) in Guy's Hospital Museum. One of these was catalogued as "ichthyosis hystrix;" the other (from the "porcupine man") was entered as "eczema impetigo"—an unfortunate term, since the scales are purely epithelial in nature, and contain no admixture of pus-corpuscles, to which the term "impetiginous" should be restricted. The black colour of the scales was due to admixture with dirt. He quoted two cases in which chronic eczema of the leg was associated with pulpy synovitis of the knee; in both the joint was excised, and in one the excision was followed by disappearance of the eczema. These cases seemed to support the view that the condition arose from a chronic congestion of the dermal tissues.—The PRESIDENT said that Mr. Howse had clearly made out that the cutaneous condition depended upon long-standing congestion, but for that reason he would be inclined to think the condition one more nearly allied to elephantiasis than to eczema; and would suggest "ichthyotic elephantiasis" as an alternative name. Certainly it was not of the true nature of ichthyosis, which is always congenital.—Dr. DUKA had seen similar forms of elephantiasis in India.—Mr. HOWSE said that he put aside the term "ichthyosis" because of the acquired nature of the affection. The change, too, was limited to the epidermal layers, there being no increase in the dermal and subdermal tissue, as in elephantiasis. Still, no doubt, the conditions of its production were those which usually obtained in this latter disease.

Mr. BARKER showed a recent specimen of Synovitis of the Hip-joint in an early stage. It was characterised by vivid vascular injection of the margins of the synovial membrane, the synovial fringes, and of the round ligament. In reply to the President, he added that the case was one in which several of the other joints were affected with chronic rheumatoid arthritis, and where the femur had become attacked with osteo-myelitis supervening upon purulent synovitis of the knee-joint.

The Society then adjourned.

# Reviews and Notices of Books.

*The Famine Campaign in Southern India (Madras and Bombay Presidencies and Province of Mysore), 1876–1878.* By WILLIAM DIGBY, Honorary Secretary of the Indian Famine Relief Fund. Two Vols. 8vo, pp. 515 and 491. Longmans, Green, and Co. 1878.

*The Sanitary and Medical Aspects of the Famine of 1876–77.* By Surgeon-Major W. R. CORNISH, F.R.C.S., Fellow of the Madras University, and Sanitary Commissioner for Madras. And *Notes on the Pathology of Famine Diseases.* By Surgeon-Major A. PORTER, M.D., Surgeon 4th District, Madras. Fcp., pp. 51. Madras: The Government Press. 1878.

[SECOND NOTICE.]

Sir Richard Temple was the commissioner selected by the Government of India to visit the famine districts. He had had previous experience of Indian famines, and so brought special knowledge of the economics of the subject to his task. He entered upon it at once, and proceeded so rapidly with his work that, even making every allowance for previous experience, it is difficult to conceive that anything short of some gift of inspiration could have enabled him to penetrate much below the surface of things in the subjects he had to deal with, and especially with regard to the physical condition and the food requirements of the famine-stricken populations on public works and in relief camps. The main result of his work was the recommendation to the Government of India to reduce the scale of food relief from *one pound and a half* of grain per day to *one pound* (or its equivalent in money). Admitting that the larger allowance might be essential for a man while at work, he argued—

"There might be a question whether *life cannot be sustained* with one pound of grain per diem, and whether Government is bound to do more than sustain life. This is a matter of opinion, and I myself think that one pound per diem might be sufficient *to sustain life*, and that the experiment ought to be tried."

This advice was tendered, as we gather, not only without regard to existing knowledge of the effects upon the health of a diet barely sufficient to sustain life, but also without reference to the different nutritive qualities of grain in use in different districts; and the Government of India at once adopted the loosely worded recommendation. We know nothing in history which can compare with this astounding policy.

The Sanitary Commissioner for Madras, Surgeon-Major Cornish, as in duty bound, wrote immediately a vigorous memorandum upon this adoption of a 1 lb. allowance of grain, giving the results at large of Indian and European experience on the minimum of food on which life could be sustained with reasonable retention of physical power. The memorandum erred in including the results of European experience on the subject, as the experience of Indian gaols alone yielded an overwhelming amount of evidence against the adopted allowance. Sir Richard Temple wrote an answer to Mr. Cornish's memorandum, in which he was not slow to avail himself of certain specious arguments as to the inapplicability of European experience to the case of Indians. But the chief interest of this answer for our immediate purpose consists in the fact that Sir Richard Temple, writing as one responsible official to another, that other being a scientific official, thought it unnecessary to retain the ordinary forms of courtesy, used at least in this country, in his answer, and wrote contemptuously of what he pleases to call "abstract scientific theories," "preconceived physiological theories," "so-called scientific evidence." In other words, he sought to depreciate in every way scientific knowledge of the subject in question, and that in a tone which would have been intolerable even in a correspondence under the ordinary relations of life. It is not to be wondered at that Mr. Cornish's rejoinder, while avoiding all personal offensiveness such as that which marks Sir Richard Temple's answer, showed no mercy to the special pleading which characterised it. Sir Richard Temple's memorandum and minutes generally on this subject are not the only sample of official dogmatism which the correspondence betrays, and they justify the conclusion that the common rules of official courtesy practised in this country (to say nothing of what obtains in the intercourse between intelligent men) do not always have a place in Indian official life.

Events, of course, soon proved the accuracy of Mr. Cornish's views, and the Government of India decided to leave the matter of the 1 lb. ration in the hands of the local authority. This was done without any frank avowal of error, or the recognition of the accuracy of Mr. Cornish's view; but with a pettiness on a par with the gross discourtesy which had been manifested by the Central Government throughout to Mr. Cornish, when the famine came to an end the Government of India refused to award any honour to that gentleman for the great public services he had rendered in the famine, and did this in direct opposition to the recommendation of the Madras Government.

It is averred that the experience of the Bombay Presidency as to the 1 lb. allowance differed wholly from that of Madras. We refer to Mr. Digby's narrative for the state-

ments as to this experience, and we recommend a comparison of the sort of evidence given for Bombay on the subject with that coming from Madras. In reality the conditions of the experiment differed essentially in the two Presidencies. In Madras the grain used was *rice;* in Bombay, millet and other forms of grain more nutritious than rice. Moreover, in Bombay, from the first, the 1 lb. grain allowance was supplemented with a money payment which enabled the receiver to obtain an unobjectionable ration. Nevertheless, as an example of the risks run even in this Presidency, we would especially ask the reader's attention to the result of another "experiment" of reducing diet to a simple *sustaining* amount in the Bombay gaols, as given in the *Times of India* for December 13th, 1877, and quoted in Mr. Digby's second volume, p. 253.

The dreadful general results of the famine, as affecting the health and mortality of the populations stricken by it, may be read in Mr. Digby's volumes. The results as exhibited in the phenomena of *starvation* may be studied in the report by Mr. Cornish and Dr. Porter. We are unaware of any work which presents so complete and comprehensive an account as this of starvation in relation to the various diseased states which are simply manifestations of it. Sir Richard Temple, and, following him, the Government of India, sought to restrict the term, as we have already noticed, to the form of starvation which follows complete deprivation of food, putting aside altogether the starvation following upon long-continued insufficiency of food. They admitted only the fatal results of *acute* starvation, ignoring the not less fatal results of *chronic* starvation. Mr. Cornish and Dr. Porter's report now sets forth in detail the phenomena of chronic starvation and of the pathological conditions which accompany it, as observed in the famine, which, it is to be hoped, will render any such administrative blunder for the future impossible. Whether in regard to the future famine-administration of India, or as a contribution to pathological literature, this report is invaluable.

## OUR LIBRARY TABLE.

*Clinical Lectures on Diseases peculiar to Women.* By LOMBE ATTHILL, M.D., Master of the Rotunda Hospital. Fifth Edition, revised and enlarged. Dublin: Fannin and Co. 1878.—We have on former occasions noticed this work, and it is already too well known to need more to be said than to express our satisfaction at the continued demand for it. It does not pretend to be a complete work on the diseases of women. In our judgment it is none the worse for that; but it omits few of the common diseases of women, and the author deals with them in such a practical and clinical way, incorporating so much independent judgment and so much original practice as to make the study of his book indispensable to anyone who would acquaint himself with the present position of practical gynecology. The chapter on chronic endometritis, which has been for the most part rewritten, is especially worthy of perusal, as are also the chapters on menorrhagia, subinvolution, &c.

*Revue d'Hygiène et de Police Sanitaire.* Edited by Dr. E. VALLIN, aided by MM. BERGERON, BOULEY, DURAND-CLAYE, FAUVEL, GUBLER, PROUST, and WURTZ. No. 1. Paris: G. Masson. 1879. — This is the first number of a new monthly journal of Hygiene and Sanitary Police, which is to appear as the official organ of the Society of Public Medicine and of Hygiene, Paris, under the distinguished editorship of M. Vallin, with the equally distinguished assistance of the several familiarly known masters in hygiene named above. The journal cannot fail to prove an important addition to the literature of public health. The present number contains papers—by Dr. Vallin on the Study and Professional Practice of Hygiene; on the Institutions of International Sanitary Police, by Dr. Fauvel; on the Departmental Councils of Hygiene in France—what they are and what they ought to be, by Dr. Bergeron; and the first part of a critical review by Dr. Vallin on Disinfection by Dry Powders, which is devoted to an account of the dry-earth system of excrement-disposal, of great interest. In addition, there are excellent sections of foreign correspondence, summaries of proceedings of learned societies, records of proceedings of departmental councils of hygiene, notes from journals, and a report by Professor Wurtz on the Hygienic Institute at Munich. In other words, the first number of the journal is rich in matters of interest to hygienists generally.

*Dispauperisation: A Popular Treatise on Poor-law Evils and their Remedies.* By J. R. PRETYMAN, M.A. Second Edition; pp. 293. London: Longmans, Green, and Co. 1878.—The author of this work has apparently a very imperfect acquaintance with the "hand-working" classes, as he aptly designates them, and his knowledge of them seems to be from the side of their foibles rather than of their virtues. He attributes, however, to the influence of the Poor Laws alone, as affecting these classes, evils not a few of which have an origin in much more complex conditions. These defects vitiate many of the author's conclusions, and ought to have been got rid of in the interval between a first and second edition of the book. Nevertheless, the work contains much to interest and profit the reader.

*Aids to Therapeutics and Materia Medica.* Part 1. By C. E. ARMAND SEMPLE, B.A., M.B. Cantab., &c. London: Baillière and Co. 1878.—This is a little work of sixty-four pages, the first of a series "specially designed for students and junior practitioners," and containing brief but categorical particulars as to the non-metallic and metallic elements, as well as the alcoholic and etherial preparations, &c. The type is small and the writing concise, and thus the compiler has concentrated into a very limited space a considerable amount of information. The series (if this is a fair example) may be useful to the student, but hardly, as is suggested in the title-page, to the practitioner; for when the four years' minimum work is done, we conceive that the sight, much more the perusal, of such a compilation must be eminently distasteful to the newly-fledged practitioner.

*The Diseases of Women.* By a Physician. London: Cassell, Petter, and Galpin.—This is an unpretending little work, written by one who has a respectable acquaintance with the subject, and who shows discretion by not soaring too high. But for what class of readers he has written it is difficult to say, seeing that the book is too technical for lay readers, and not ample enough for the profession. It has, at least, one claim to recommendation, in that it is not likely to mislead the uninformed.

*The Journal of Physiology.* Edited by MICHAEL FOSTER, M.D., F.R.S. Vol. I. No. 6. Jan. 10th, 1879.—This part contains four papers, and completes the first volume. The first is by E. G. Cutler and E. H. Bradford, on Changes of the Globular Richness of Human Blood; the second by V. C. Vaughan, assisted by Miss Bills, on the Estimation of Lime in the Shell and in the Interior of the Egg before and after Incubation; the third by Sidney Ringer and E. A. Morshead, on the Physiological Action of Narcissia, an alkaloid obtained from the bulb of the common daffodil; and the fourth by S. Charles Roy, on the Influences which modify the work of the Heart.

*The Magazine of Art.* Illustrated. London: Cassell, Petter, and Galpin.—The February number of this admirable magazine is well up to the average of a series that promises to take a high place among art periodicals. The illustrations are well executed, and the articles written with a good deal of spirit and intelligence.

# THE LANCET.

*LONDON: SATURDAY, FEBRUARY 15, 1879.*


THE Executive Committee of the Medical Council seems to have gone to sleep—we presume exhausted with the duty of registering five thousand dentists and investigating the nebulous merits of dental diplomas obtained in the four quarters of the globe. Be this as it may, the Executive Committee gives no sign of animation, and this at a moment when the whole Council and the whole profession, not to say the public, are looking to it for some such sign. When the Council in the beginning of July passed its important resolution, to the effect that its constitution needed revision, it devolved on the Executive Committee the duty of reporting to it on the present constitution of the Council and any changes which might be desirable to promote the efficient discharge of its duties. This report of the Executive Committee is to serve as the basis of the Council's own revision of its constitution. In order that no undue delay might arise, it was resolved that the report should be presented at the "next meeting." As our readers know, this resolution, like so many other good resolutions, was broken. Then came the deluge of dentists; and up to this moment nothing is heard of a meeting of the Council to receive the report of the Executive Committee, on which so much depends. Parliament is again sitting. The time for any effect upon actual legislation this year is probably past. This is a very serious fact, for which somebody is to blame. Dilatoriness and procrastination are so much the habit and fashion of the Council that possibly some members of it think it a very good thing that, be the hitch what it may, no change in the constitution of the Council will be made this year. But the profession will not readily forget what looks very much like a breach of faith. The element of time in the resolution of the Council on this subject was, as we have said, important. Sir JAMES PAGET suggested, as an addendum to Sir WM. GULL'S resolution, in July, that the revision of the Council should take place at "the first meeting." This suggestion was accepted. So binding did it seem that Sir DOMINIC CORRIGAN thought the Council bound in good faith to deal with the subject in October. In this he was overruled; and the Council even refused to commit itself to dealing with the subject in good time before the meeting of Parliament. But nobody dreamt that we should see Parliament sitting, and the 15th of February, without the time of the meeting of the Council being fixed to fulfil its promise. The profession is simply mocked by such proceedings, and should be confirmed more and more in its determination to have itself represented in the Council. It matters little what is the explanation of such delay, whether the inability of members of the Executive Committee to agree, or the desire to stave off as long as possible inevitable changes. Whatever the explanation, the delay constitutes a breach of faith, and is discreditable.

This is not an inopportune moment for showing the way in which the Council has become merged in the Executive Committee. For some time past the most important duties of the General Council have been relegated to the Executive Committee. And the more we see of this tendency the less we admire it. A committee is a close body; it sits with shut doors, and it may go on "in the dark" for months, and nobody be the wiser or the better. One or two powerful arguments are to be got from this fact in favour of a smaller Council. The Council seems to find itself too big, too unwieldy, for its almost continuous duties, and so has to devolve its gravest work on its Executive Committee. The moral of this state of matters is to have a smaller Council, not meeting darkly and with closed doors, but in the presence of reporters. Had we had a smaller Council and a due representation of the profession, we should not have had the delay and the mystery and the bad faith which call forth our present protest.

IT was with pleasure that we were able recently to announce that Dr. WILLIAM FARR, whose name has been so long and so intimately connected with the work of the Registrar-General's Department, is a candidate for the appointment of Registrar-General, which will fall vacant at the end of this year by the resignation of Major GRAHAM.

When recently protesting against any attempt on the part of the Local Government Board to absorb the Registrar-General's Department, we insisted upon the necessity of the approaching vacancy being so filled as to ensure to the Department a continuance of that independent sphere of usefulness which has been so successful in securing the confidence of the public in the trustworthiness of the statistics issued by the Registrar-General. Rumours had been so industriously disseminated that Dr. FARR, as well as Major GRAHAM, contemplated retirement, that we were unable to do more than dwell upon the responsibilities involved in selecting the new Registrar-General. We only expressed the unanimous opinion of the public that the vacancy should not be filled without due regard to special qualifications for the post. With Dr. FARR as a candidate, it is needless to look further, if the new Registrar-General is to be selected for special qualifications, and the vacancy is not to be treated merely as a piece of political patronage. It is probable, however, that Dr. FARR would not thus early have announced himself as a candidate for the approaching vacancy if other candidates had not been put forward whose claims and qualifications it would be little short of absurd to compare with those of Dr. FARR, who in the field of vital statistics stands pre-eminently alone.

England may now well be proud of her system of vital statistics, and the Weekly, Quarterly, and Annual Reports of the Registrar-General have long been accepted as models for such publications in all parts of the world. This system may be said to owe its very existence to Dr. FARR, who, in 1839, soon after the Act for the civil registration of births and deaths came into operation, was appointed compiler of statistical abstracts in the General Register Office. His selection for the post does infinite credit to the acumen of Sir JAMES CLARK and others to whom we believe it was mainly due. Dr. FARR had been a liberal contributor to THE LANCET from its foundation. It was indeed to no small extent due to the ability he displayed in these columns in the treatment of vital and mortal statistics, that

his fitness for the new appointment was recognised and acknowledged. It is seldom that anticipations of fitness are more amply fulfilled. During nearly forty years Dr. FARR has been building up and adding to our national system of vital statistics, and now, necessarily near the close of his official career, the Government will have the fortunate opportunity of conferring upon him an appointment which a large section of the public persists in believing that he already holds. It is hard to conceive that any Government will miss the opportunity of bestowing so fitting and graceful a reward upon so meritorious a public servant, more especially as the appointment would be an essentially popular one. The now long series of the Registrar-General's Annual Reports contain much of Dr. FARR'S best work, and are a mine of wealth to the student of vital statistics; it is much to be regretted that many of these reports have now long been out of print. The journals, moreover, of the Royal Society, of the Statistical Society, of the British Association, of the Social Science Association, and of other societies, contain numerous valuable papers, mainly on statistical subjects, which abundantly testify that Dr. FARR'S world-wide reputation as an eminent statistician is founded upon the sound basis of able and at the same time painstaking and laborious work. Among so much useful work, it is difficult to single out any for special mention, but perhaps one of Dr. FARR'S most arduous and valuable labours is his English Life Table, which is calculated on a larger basis than any other known life table—namely, upon the deaths in England and Wales in seventeen years, and upon the two census enumerations in 1841 and 1851.

Dr. FARR is principally known as a statistician, but few will refuse to acknowledge that his success in applying the statistical method to the estimation of sanitary condition has, probably more than anything else, tended to stimulate popular interest in public health.

No one foresaw more clearly than the founder of this journal the value of civil registration of births and of deaths to sanitary progress, or more clearly recognised in the Mr. WILLIAM FARR of that day the capacity to turn to their full account the facts which were then, for the first time, being systematically recorded. We shall, therefore, have additional reason to congratulate Dr. FARR, if at the end of the year we have to notice his appointment as Registrar-General in succession to Major GRAHAM. It is, indeed, satisfactory to note as a precedent that very recently, when the Registrar-Generalship of Ireland was vacant, the appointment was given to Dr. BURKE, who held an analogous position in the Irish General Register Office to that which has been filled for so many years by Dr. FARR in England. We believe, moreover, that the promotion of Dr. FARR to be Registrar-General would be attended with a financial saving, as he now receives special allowances as Chief of the Statistical Department, which his promotion would render unnecessary to his successor.

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As the question of the repeal of the Contagious Diseases Acts is pretty sure to be brought forward again during the present session of Parliament, it may not be amiss to lay before our readers the results of their operation, as shown by the Army Returns. These returns, which were drawn up for the purpose of ascertaining the influence of the Acts, state the admissions into hospital by primary venereal sores and gonorrhœa only, being the two forms of disease most likely to be affected. They were furnished from all stations in the United Kingdom at which the troops numbered five hundred and upwards, and these were grouped into two classes: (1) the stations under the Acts; (2) the stations not under the Acts. On the average of the eleven years from January 1st, 1867, when the Act of 1866 first came into operation, till the 31st December, 1877, the admissions into hospital for primary venereal sores were in the proportion of 49 per 1000 of strength at the stations under the Act, and 101 at those not under the Act, showing an exemption equal to one-half of the cases in favour of the former. The admissions for gonorrhœa during the same period were 89 per 1000 of strength at the first group of stations, and 105 at the second, a result still favourable to the former, though by no means to so great an extent as in the case of primary venereal sores. But the latter is the form of disease most likely to be followed by grave constitutional injury, and a reduction in its prevalence to the extent of one-half must be regarded as a satisfactory event by all who have given attention to the serious consequences of the disease. But it may be asked whether these favourable results may not have been in some degree due to the selection of the stations to which the Act was applied—whether they may not have been stations at which primary sores and gonorrhœa were, from special causes, less prevalent even before the application of the Act to them. This is shown not to have been the case, for on the average of four years (1860–63) before the first Contagious Diseases Act was passed, the cases of primary venereal sore amounted to 130 per 1000 at the fourteen stations subsequently brought under the Act, and 116 at those never brought under the Act, while the cases of gonorrhœa were 135 and 129 per 1000 at each group respectively. The benefit, therefore, has been even greater than above represented, for the reduction has occurred at the group of stations where these diseases were previously most prevalent.

But the full benefit of the Acts is scarcely brought out by this comparison of the *average* of eleven years, favourable as the results are. There are two other points worthy of notice. The first is the steady decrease of cases of primary sore at the stations under the Act. With two exceptions, there has been a decrease in these cases in every year since 1867; the two exceptions were 1872 and 1877, when there was an increase of 3 and 2 per 1000 respectively. But at the stations not under the Acts the fluctuations have been very considerable, the increase amounting to 30 per 1000 in 1872, to 19 in 1869, and to 9 per 1000 in 1877. The decrease in the amount of gonorrhœa has been by no means so steady, and the fluctuations in it have been as great at the group of stations under the Acts as at the other. The second point is the relative prevalence of these diseases at the present time at the two groups of stations. The admissions in 1877 by primary sores were 35 per 1000 at the stations under the Acts, and 91 at those not under the Acts, or three-fifths lower at the former. The cases of gonorrhœa were 68 and 117 per 1000 respectively, but the latter ratio appears abnormally high, though no special cause for this is stated in the return from which we quote. The outcome of these returns, then, is very favourable, as showing a marked

beneficial influence of the Acts, especially upon the more formidable, because often constitution-infecting, disease.

An objection has been taken to the army statistics that they include among the admissions into hospital at stations under the Acts cases of disease contracted beyond the limits to which the Acts extend. Surgeon-General BALFOUR, in a letter inserted in our last number, has explained the grounds upon which he, as head of the Statistical Branch, A.M.D., declined to attempt any separation and omission of such cases. His statistical instincts led him to prefer a simple record of facts, as shown by the numerical returns, to modifying them by statements on the accuracy of which he placed no reliance. Without entering upon this question, we would observe that the course he followed has this undoubted advantage—that it deprives the opponents of the Acts of an opportunity, of which, we believe, they would gladly have availed themselves, of objecting to the returns as having been modified, on very insufficient grounds, to suit the views of the supporters of the Acts. If the Army Returns, thus handicapped, show such favourable results as are above noted, it appears to us that the Acts must commend themselves to the support of all who take an interest in the welfare of the soldier and in the diminution—would we could say eradication—of this formidable constitution-destroying disease.

The Army Returns show not merely the numbers admitted into hospital for primary venereal sores, but also, for the last eight years, the numbers constantly in hospital on that account. These amounted, on the average of that period, to 3·51 per 1000 of the strength at the stations under the Acts, and 7·85 at the stations not under the Acts. Calculated upon the average strength, these results show a constant number of 208 men effective at the stations under the Acts who would have been in hospital with primary sores had the proportion of cases been the same there as at the stations not under the Acts. These results fully bear out the conclusions already drawn from the proportion of admissions at each group of stations of the value of these Acts in effecting the objects for which they were passed.

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FOR many years the medical officers of the Irish gaols have been suffering no slight injustice. By an old law the surgeons of each county infirmary in Ireland were bound to give medical attendance to the county prison, if situate within five miles from the infirmary. For this they received £100 a year from the Treasury, and £100 from their respective counties. About forty years ago the Treasury £100 was stopped, although the duties of the medical officers have been considerably augmented by the introduction of bookkeeping, registration, &c. It was, however, generally understood that when the Prisons Act of 1877 was passed Government would take the opportunity of redressing the grievance. This expectation, however, has not been fulfilled. In December, 1877, a letter was sent from the new Prisons Board to the Boards of Superintendence of gaols, calling attention to the new duties imposed on the medical officer by the new regulations, and directing them to see that these duties were performed by that officer; no mention being made as to a salary commencing with the new duties. The Board of Superintendence of the Down Gaol, at the request of their medical officer, Dr. MACONCHY, wrote to inquire, "What remuneration the surgeon was to receive in consequence of the extra duties imposed on him, his duties having been discharged gratuitously to the present time?" The reply was to the effect "that the law adviser of the Crown had given it as his opinion that the surgeon of the infirmary is bound to give his professional attendance at the gaol, and perform all the duties enumerated in the Prisons Act, until the 1st of April, 1878, without any extra pay. If he decline to do so, he will forfeit his right to a presentment for his salary to the infirmary." It is now ten months since the date mentioned in that letter, and as yet the medical officers have received no salary! That Government have an ulterior object for this delay appears from a letter received from Mr. MACARTNEY, M.P., who, in answer to an inquiry addressed by him to the Government as to their intentions with regard to the pay of infirmary surgeons for gaol work, was informed that "they must resign their appointments, and come forward as candidates again, before Government can give them a salary." The effect of this would be to prevent the medical officer taking his previous years of service into account should he wish to retire as a civil servant, thus depriving him of his only compensation for years of unpaid work. In addition to this, the Government have under consideration the suppression of the office of apothecary in the gaols, and to impose the duty of dispensing medicines as an additional burden on the visiting surgeon—a drudgery that will do much to lower his status among the prison subordinates, and tend to weaken his authority, even if he is fitted by habit and practice to perform such purely mechanical labour.

It can hardly be wondered at that the above facts have created considerable indignation amongst the visiting surgeons of the Irish gaols, and they feel that their present treatment is a punishment for their lethargy in not having agitated with more persistency against the former injustice. At a meeting held at Belfast on Jan. 17th a paper was read by Dr. MACONCHY, in which the grievances above narrated were forcibly, though temperately, stated, and the meeting passed the following resolutions:—1. That the present position of infirmary surgeons in respect to goal work is a practical injustice to them. 2. That the suppression of the office of apothecary to prisons would be detrimental to the public service, because in these institutions, which *are occasionally subject to popular suspicion*, the medical treatment of any case should be provable by the apothecary and the books of the institution without reference to the medical officer.

Regarding the present state of public feeling as to the management and discipline of our prisons, and considering that the Home Secretary has recently been called upon to issue a special inquiry, under the supervision of the Royal College of Physicians, to consider the working of the new regulations with regard to an alleged death from neglect in one of our principal prisons, we think the Government are acting very foolishly in irritating such a tried and responsible body of servants as the infirmary and gaol surgeons of Ireland. We have frequently pointed out that the whole tendency of the new Prisons Act of 1877 is toward greater severity to the prisoner; and in order that its provisions be carried out effectually, without undue pressure on the weak and feeble, it will be necessary to keep a constant watch

over each individual prisoner. Unless we have an intelligent, responsible body of men as surgeons to our gaols, fiascos like those at Clerkenwell and Southampton, which have so painfully inaugurated the working of the new Act, will become frequent. It is only common sense that those who are acquainted with the routine of prison work should be retained in their positions, receive a fair remuneration for honest work, and be relieved from all unnecessary drudgery so as to be at liberty to attend entirely to their very responsible charge—the prisoners. Justice also would suggest that those who for years have been doing good and useful work without a salary should not be placed, as regards the possibility of a retiring allowance, at a disadvantage with those officers of the gaol who are allowed to count their previous years of paid service.

THE Report of the Medical Department of the Russian Ministry of the Interior for the year 1877, which has just been made public, contains a statement as to plague which will be read with profound astonishment throughout Europe. From this statement we learn the unexpected fact that plague was present in more than one locality of Russia in Europe during the year to which the report refers. In 1877, according to this official report, 241 cases of "Siberian plague" (*peste de Sibérie*, as the Russians designate bubonic plague) were reported to the Imperial medical authorities, the mortality among these cases reaching 21 per cent. Of these cases, 41 occurred in the province of Viatka, one of the eastern provinces of the empire; and 32 in the province of Tchernigow, one of the south-western provinces. Of the locality of appearance of the remaining 168 cases the source from which we have derived this information says nothing. These outbreaks of plague in 1877 occurred contemporaneously with, or followed very rapidly upon, the development of plague in Northern Persia, especially at Resht, the same year.

We shall not seek to characterise the persistent denials of the Russian Government, with the above information in its possession, of the existence of plague in Russia at the beginning of the outbreak of the disease in the province of Astrakhan—an outbreak which there is now reason to believe was foreshadowed by dropping cases as early as May of last year. We are compelled to assume that the medical profession of St. Petersburg, at least, has been kept in ignorance of the startling fact now made public, otherwise it would be impossible to explain some of their utterances with regard to the outbreak in Astrakhan.

Neither shall we attempt to characterise the farce of restrictive measures now being applied to the infected district of Astrakhan, the Government being all the while aware that the disease has been, and probably is now, scattered widely in the Empire. We have no hope that other Continental nations will learn the lesson as to quarantine which at the present moment may be studied in Astrakhan, but it is none the less worth their attention. The infected district is now hemmed in from the rest of Russia by a closely-drawn sanitary cordon, which, preposterous as a security against the spread of an infectious disease, has proved most effectual in bringing to a standstill several of the most important industries within the cordon, and is rapidly reducing the poorer classes dependent upon these industries to a state of impoverishment which will place them in the fittest condition for feeding the pestilence, should it, as may be feared, become active again in the spring.

# Annotations.

"Ne quid nimis."

## THE ARMY MEDICAL DEPARTMENT.

PARLIAMENT has again met for the dispatch of business, and during the recess nothing has been done to fill up the numerous vacancies in the Army Medical Department or to induce candidates to come forward for that branch of the public service. Twelve months have elapsed since the Secretary of State for War acknowledged that it was in so unsatisfactory a state that he suspended the usual advertisement for candidates, and appointed a committee to inquire into the causes of discontent and to report what measures were required to render the service once more popular. Nearly six months have passed since that committee reported, and yet nothing has been done, nor has Colonel Stanley given any indication of the course he means to pursue. In this there is something radically wrong. Is it that the gallant officer does not appreciate the importance and urgency of the case? Is it that he meets with opposition at the Horse Guards to the measures he deems advisable, and that he has not moral courage to face it? Or is it that he is unable to make up his mind as to what steps he should take? The subject has been brought under his consideration by the report of the committee appointed by Lord Cranbrook, and has been kept before him by the military and medical press, and yet he makes no sign. The untoward disaster which has just happened at the Cape will, doubtless, involve the sending out of a considerable addition to the force there, and with that reinforcement an adequate staff of medical officers, administrative and executive. How are the places of those sent out to be supplied at home? It is a matter of great importance that the young medical officers joining the army should go through the special course of instruction provided at the medical school at Netley, and this of itself involves a delay of four months; but as yet no steps have been taken to procure the men for this course. Colonel Stanley may be sure that any neglect to provide an adequate supply of medical officers for the gallant troops who are fighting our battles will excite a strong feeling of public indignation, and that further delay in so momentous a matter will bring great and merited obloquy upon the department of the Government of which he is the responsible head. We trust that he is prepared to state to the House what measures he proposes to adopt, and to lay upon the table such documents as may enable members to judge whether they are of a character likely to procure a sufficient number of suitable candidates, and to put an end to the deadlock caused by the present do-nothing policy.

## THE WINTER-SPRING.

THAT portion of the spring which commonly gets mixed up with winter has set in with more than wonted promptitude and intensity. Its duration is so uncertain that before our pages are in the hands of the reader winter may have resumed its reign. The effect of these repeated changes on the mind, and through the mind on the nervous system and body generally, is most depressing. The buoyancy which many warm-minded people have regained within the last few days will render their depression the more ungenial when the cold and darkness return. Meanwhile, physical risks are run by those who, yielding to the suasive influence

of the lighter mornings, lay aside winter wraps, and court cold by unaccustomed exposure. "Wrapping up" is a mistake, because it renders just so much of the body as is commonly protected liable to injurious impression when casually exposed; but winter, and, above all other periods of the season of discontent, this winter-spring is not the time to commence what is sometimes called a "hardening" process. There is a fundamental fallacy in the notion of "hardening." The simple *rationale* of the process is to minimise the area of susceptibility to change. If the body generally, except a few square inches (say the surface of the throat) were habituated to impressions of cold, and the particular part excepted kept constantly wrapped, Achilles would still be vulnerable, though only in his throat. The susceptibility of the organism as a whole is not diminished by the practice of exposure or the plentiful use of cold water. The way this sort of thing works is by diminishing the area of susceptibility. The method is good if wisely carried out, but it is one of those matters which should be thought over carefully, and adopted only under special advice with special precautions. The notion of exposing a weak part with the view of "hardening" the body as a whole is the fruitful cause of many illnesses. It is well this should be understood; also the fact that leaving off winter wraps too early, under the blandishments of a premature spring, is a perilous experiment, none the more commendable because its penalties are occasionally evaded or their infliction postponed.

## MEDICAL SCHOOL AT CAMBRIDGE.

THE Board of Medical Studies have laid before the Senate the following recommendations:—1. That steps should be taken to obtain a statute for granting the degree of Bachelor in Surgery as a degree prior to that of Master in Surgery. 2. To consider the advisability of empowering the examiners for medical degrees to divide the successful candidates into two or more classes; this, they think, would be advantageous on account of the considerable differences in the degrees of merit observable among the candidates, and also because it would tend to encourage increased diligence among the students. 3. To change the present time for the medical examinations in the Michaelmas term to December 13th, or the 14th when the 13th is on a Sunday. There may be some difference of opinion as to the advisability of the second recommendation, considering that the number of candidates for the M.B. examination annually is scarcely as yet very great, and that this number is rendered smaller for each examination by the fact that there are two in the year. If the suggestion is carried out there ought, for the present at least, to be only one examination in the year. An additional objection is that men would be induced to postpone going in for the examination so as to get an additional year's reading in order to ensure a first, which would give them an unfair advantage over men who, for financial reasons, are obliged to present themselves for examination as soon as they have kept the requisite number of terms. We also understand that an address, signed by a considerable number of the senior medical graduates of the University throughout the kingdom, is in preparation to be presented to the Senate, requesting them to take into consideration the advisability of founding a chair of Pathology in the University. We have frequently pointed out the objections attending the formation of numerous professorships at Cambridge in many of the less important branches of professional knowledge, chiefly arising from lack of material for original research, without which professorial energy soon declines, and also from their diverting money which might be more usefully spent in attracting young men to devote some years at the University in teaching the rudiments of medical knowledge. In the case, however, of the proposed chair, these objections do not suggest themselves. Material for original research could be collected without much trouble from all the deadhouses of Europe, whilst the work done in the pathological laboratory might be rendered sufficiently instructive to be invaluable to junior students as a preliminary to their London work. We hope, therefore, the suggestion will receive the attention from the authorities it deserves.

## THE ZULU WAR.

A LARGE number of medical officers have been placed under orders for immediate service at the Cape, and will leave England with the reinforcements as soon as the transport can be provided. A full company of the Army Hospital Corps, consisting of four officers and one hundred and fifty men, are also held in readiness to proceed to the seat of war. A batch of civil practitioners and several army surgeons left by the Cape steamers last month, and should reach Cape Town in a few days; they will be a welcome addition to the medical staff at the disposal of Surgeon-General Woolfryes, who, when recruited by those now on the eve of embarkation, will have a full complement of officers and men to work the medical machinery of the campaign.

Surgeon-Major Peter Shepherd, M.B., whose name we regret to observe is announced amongst the number of the officers killed in the late terrible defeat in Zululand, entered the army in 1864, and was promoted to the rank of Surgeon-Major in 1876. Dr. Shepherd had previously served for some years at the Cape and in Natal as assistant-surgeon in the 99th Regt., was afterwards stationed in India with the 4th Hussars and 5th Lancers, and after his return to England, which he only quitted a few months ago for the seat of war, had been a prominent member of the St. John's Ambulance Society, in the working of which he took great interest, delivering lectures and practical instruction to large classes of artisans at Woolwich, and to the police force in London. A popular, genial officer, his loss will be mourned by many friends, but "*Dulce et decorum est pro patriâ mori.*"

## THE "CRIMINAL TYPE" OF DEVELOPMENT.

*Apropos* the most recent specimen of criminal development, familiar speculations as to a special criminal type of development have been revived. The hypothesis of a speciality of physical organisations associated in the relation of cause and effect with vicious tendencies is so opposed to the interests of personal and public morality, and, as we believe, thoroughly unscientific, that we must once more enter a protest. The doctrine of development, as illustrated in the production of species, does not lend itself to this unphilosophic idea. When once, in obedience to the influence of surrounding conditions, a particular type has been created, the tendency to revert or change is very small. The typical races of men are fairly distinct, and they are not easily mixed, except by repeated intermarriages. On the other hand, the distinctions of development as regards temperament and character are clearly marked, even among individuals of the same family. In short, the facts are all of a nature to show that it is rather a difference of degree than of kind that determines the formation of a mental and moral tendency. Whatever may be the actual relations of mind and matter, the intellectual, like the physical, system seems to have its faculties and functions, which need to be co-ordinated and controlled in direct and automatic action, like the faculties and functions of the physical organism. If there is no training of the mind, that part of the nature is left without strength and autonomy, just as the sensory and muscular systems are undeveloped and incapable of expert combination in action, if untrained. There is no evidence that any dis-

tinctly "criminal type" exists; but, in obedience to the general law of development, those faculties which are most used are best grown, and what is determined in the individual is propagated by heredity in the family. There may be families noted for the production of a large number of criminals, but this circumstance is not either accounted for or to be excused by any physical peculiarity, but is wholly explained by the neglect of education or positively vicious training and influence. The evil can be eradicated, with difficulty perhaps in the individual, but easily in the generation, if only the proper moral discipline is enforced. The mischievous and false philosophy propagated under the garb of popular science teaching, in connexion with much that is called psychological physiology, needs to be exposed.

## INFECTIOUS DISEASE HOSPITAL ACCOMMODATION FOR THE METROPOLIS.

AN important Report has been published by the Vestry of St. Pancras, prepared by its clerk (Mr. Thos. Eccleston Gibb) and its medical officer of health (Mr. Shirley F. Murphy), on the Provision of Hospital Accommodation for the Metropolis for persons suffering from Infectious Diseases. The reporters are of opinion, as the result of their investigation of the question, that the original proposition of the Metropolitan Asylum Board—that there should be a central authority for the provision of the hospital accommodation in question, and for all persons, whether paupers or not—is most consistent with the views already expressed by the Vestry on the subject, and gives greatest promise of an efficient organisation. They further think that the Asylum Board should become the central hospital authority, on condition of ceasing to be a Poor-law authority and becoming a sanitary authority, and its election being transferred from the boards of guardians to the vestries and district boards. In other words, they would reconstitute the Metropolitan Asylum Board as a board under the Public Health Law, and not under the Poor Law. In support of their conclusion, they state that not less than 90 per cent. of the patients admitted to the Metropolitan Asylum Board's hospitals have ever before received parish relief; that, in fact, the hospitals are used for sanitary rather than for Poor-law purposes. They would therefore have the Board reconstituted to do avowedly what it has hitherto done actually, and would admit pauper patients to the hospitals, not by reason of their pauperism, but of their sickness. That this is the proper line of argument we have no doubt. The Asylum Board has, however, under its charge other Poor-law institutions than infectious disease hospitals, and this might make a reconstitution of the sort here indicated difficult, but the difficulty ought not to be insuperable.

## THE OBSTETRICAL SOCIETY.

THE meeting of the Obstetrical Society was held on Wednesday, the 5th inst., when the new President, Dr. W. S. Playfair, took the chair. A new form of ovum forceps was exhibited by Dr. Hickinbotham, of Birmingham. Dr. Galabin showed the ovary and sections of the uterus of a woman who had died suddenly. She was on the eve of menstruating, and the ovary presented a Graafian follicle already ruptured. Dr. Priestley showed the bones of a fœtus which had been retained for nearly twelve years from a case of extra-uterine fœtation. These were removed as they presented themselves per vaginam during the past year. The mother is quite well. Dr. Robert Barnes showed a curious growth which formed a ring immediately within the anus, and which appeared to be the result of changes in hæmorrhoids. Dr. Potter showed a new form of syringe for injecting the uterus, and Dr. Fitzpatrick showed a uterus containing a fœtus at term.

The President then delivered his address. A paper on "Digital Dilatation of the Os Uteri," by Dr. James Braithwaite, was read. It recommended dilatation of the os in certain cases by the introduction of the forefinger of each hand into the canal, and then flexing the terminal phalanges so as to exercise pressure outwards and downwards. As the os dilated the two fingers of each hand were introduced, and the same process continued. In this manner the os could be rapidly dilated. Several cases were related in which this method had been adopted and delivery effected. No evil results followed, the mothers having made good recoveries. The President thought that chloral was of the greatest service in cases where the os was rigid. Dr. R. Barnes said that two points arose from the paper—the treatment of puerperal convulsions, and the method of dilating the os uteri. The dilating bags, when properly made, would effectually and safely dilate the cervix. It was not always necessary to dilate in cases of convulsions—indeed, touching the cervix alone would, in some cases, excite convulsions; in those cases we had chloral, or, better still, chloroform. Dr. Priestley said that he had often found the dilating bags to slip out from the cervix when the uterus began to contract. Dr. Edis preferred Barnes's bags for dilatation of the cervix, but sometimes it was necessary to use the fingers. Dr. Aveling thought the hand used as a cone the best and safest means of dilating the neck of the uterus.

## A NUT FOR ANTI-VACCINATORS TO CRACK.

MR. THOMAS HOLMES, the vaccination officer of the Leeds Union, in his recent half-yearly report, shows the state of public vaccination in Leeds. The facts may well make the individuals who rave at the most sensible of our health laws more hopeless than ever. They show at once the popularity of vaccination and its utility. The vaccination officer accounts in respect of the year 1877 for the vaccination of 88·8 per cent. of the children born; 9·9 per cent. died unvaccinated; six were postponed through sickness; fourteen were reported to the officers in whose districts they had gone to reside; sixty-seven had removed from the township and were not found. The total number of cases accounted for were 98·8 per cent. of the births, leaving a little over 1 per cent. not accounted for. This is the highest number of children vaccinated in any year. It is ridiculous to fight against laws which can be so accepted in a population like that of Leeds. But more is yet to come. The Leeds people have not only applied the law with a faithfulness scarcely paralleled, but they have their reward in the absence of death from small-pox. In the half year ending June 30th, 1541 persons died from small-pox in England and Wales, but the township of Leeds did not contribute one death to that sad list. We record these facts for the use of those who have the sense to appreciate facts, but with no hope that they will have the slightest effect upon anti-vaccinators.

## CYPRUS.

MR. HEPWORTH DIXON, in his interesting and amusing lecture on Cyprus, delivered at the Royal United Service Institution on Friday last, made some lengthy remarks on the sickness from which our troops suffered so severely last summer and autumn that must have struck the members of the medical profession who were present as, to say the least, novel and startling. Referring to the fever, which he acknowledged had been universal, he proceeded to lay down the law most emphatically that it was in no sense due to marsh poison or malaria, but was sunstroke, or, as he terms it, a "dry or sun fever," caused entirely by heat, eating unripe fruit, and direct exposure to the sun, the Cyprian cure for which is "sliced lemons bandaged round the head, with lemonade to drink, a non-stimulating diet, and shelter from the sun." It is almost unnecessary to re-

mark that this view of the etiology of Cyprus fever is not shared in by Sir Anthony Home and the army medical officers serving under him; on the contrary, their opinion is, we believe, unanimous that the fevers observed on the island in all parts, sea-coast, inland, and in the mountains up to nearly 5000 feet high, are the ordinary malarial fevers of semi-tropical countries *modified by climate and surroundings*; in fact, the experience of medical officers who have met with, and studied, the disease in all parts of the globe points to the conclusion that the diseases often christened locally Peshawur fever, Scinde fever, Terai or jungle fever, Rock fever at Gibraltar, Hong Kong fever, Mauritius fever, and so on, are all offsprings of that substance, be it germ, spore, cell, or what not, which has hitherto eluded our efforts at identification, but which we designate "malaria."

## "THE BENEFIT OF THE WORKING-CLASSES."

MR. GORST told his constituents at New Brompton a few days ago that the present session "would be mainly occupied with domestic legislation for the benefit of the working classes." We hope his vaticination may be justified by the event so far as the "domestic" character of impending legislation is concerned, but it is to be hoped there will be no particular attempt to benefit the working-classes. The aim to benefit special sections of "the people" has been the bane of legislation for many years past. "Vested interests," particular "persuasions," "races," "nationalities," and special objects and orders have been considered, to the neglect of the common good, and the general advantage and economy of the bread-winner. What we want is a wise and comprehensive consideration of common needs and interests—"the greatest good of the greatest number," using that phrase for once in its literal meaning, and not as the shibboleth of any party or following in politics. Public health, general prosperity, the revival of trade as a whole, are the leading lines a statesmanlike policy should select. Special measures of reform and improvement will fall naturally into their places and encounter little opposition if they are allowed to occupy their natural order in the scheme of progress than if, as too often happens, they are taken out of their normal position and thrust into prominence in a fashion which not only offends the instincts of economy, but stirs the prejudices of the class it is intended to appease. "A truly liberal policy" should give what the public conditions demand, instead of waiting until compelled to yield to pressure what ought to be ministered to intelligently recognised need.

## TRIPLE OVARIOTOMY.

CASES in which the presence of a supernumerary ovary has been discovered are very rare, and we believe that the following case of triple ovariotomy, performed by Dr. Winkler, of Dresden, is unique:—Emily S——, thirty-nine years of age, confined seven years previously, was seen in July, 1877. She had observed a tumour for about six years, and had had several attacks of severe peritonitis. The tumour was evidently bilocular, one large cyst filling the cavity of the abdomen, and the other that of the pelvis. She was tapped in July, and Dr. Winkler performed ovariotomy in August. The large cyst was extensively and firmly adherent to the abdominal wall in front and behind, also to the liver and omentum. The smaller cyst, occupying the pelvis, was not adherent. The pedicle was attached on the left side. It was tied and dropped into the pelvis. The right ovary was found to contain a mass of small cysts; its pedicle was also tied and dropped. While cleaning the cavity of the belly, a fact diagnosed previously was verified —namely, that there was present considerable mobility of the right kidney. But in the left half of the pelvis was also found a tumour containing two small cysts. The pedicle was tied and dropped. The cavity of the abdomen was drained, but the patient died of septicæmia on the fourth day. Ovarian tissue was found in each of the tumours removed, and it was evident that two ovaries were present on the left side, inasmuch as there were two distinct tumours, each possessing a distinct and separate origin.

## DAIRY, COW-SHED, AND MILK-SHOP REGULATION.

THE Privy Council, as we announced last week, has issued an Order under the Contagious Diseases (Animals) Act, 1878, with reference to the regulation of dairies, cow-sheds, and milk-shops. It makes provision for the registration of these places, their cleansing, and against the contamination of milk from diseased animals and from infectious diseases. As to infectious diseases, the Order provides: "It shall not be lawful for any person following the trade of cowkeeper or dairyman or purveyor of milk, or being the occupier of a milk-store or milk-shop, to allow any person suffering from a dangerous infectious disorder, or having recently been in contact with a person so suffering, to milk cows, or to handle vessels used for containing milk for sale, or in any way to take part or assist in the conduct of the trade or business of the cowkeeper, dairyman, purveyor of milk, or occupier of the milk-store or milk-shop, as far as regards the production, distribution, or storage of milk, until all danger therefrom of the communication of infection to the milk, or of its contamination, has ceased." The other regulations are of a piece with this one, which clearly indicates that the Privy Council has prepared this Order without any consultation with anyone competent to advise it on the several questions. If the provision in the Contagious Diseases (Animals) Act were intended virtually to be a dead letter, and to prevent the regulation of dairies &c. becoming a question of public-health administration, this Order can be understood; but it would be equally explicable as a piece of departmental perversity and stupidity.

## PUBLIC HEALTH LEGISLATION.

AMONG the first Bills printed for the session is a Bill to amend the Public Health Act (1875). This Bill, as the Act of the previous session, is intended still further to increase the powers of local authorities as to water-supply, and to remove a difficulty of rating in respect to sewerage works benefiting certain houses only. It proposes to give to local authorities under the Public Health Act, 1875, the powers exercised under the Waterworks Clauses Act, 1847, with respect to construction of waterworks, and which hitherto have been given by special Acts. It proposes also to enable sanitary authorities to rate, under certain specified circumstances, with respect to sewerage works, the houses which alone have been benefited by those works.

## MAGISTERIAL RESPONSIBILITIES.

AN illustration of the severe responsibilities that sometimes devolve upon county and other magistrates occurred recently in the city of Worcester. It appears that a man named George White, engaged as a glover at the establishment of Messrs. Dent, Allcroft, and Co., had shown for some time distinct symptoms of mental unsoundness, that he was, nevertheless, permitted to be at large, and, having gone out one evening, wandered into the fields, and was found dead the next morning in a ditch, having been undoubtedly killed by cold and exhaustion. The important circumstance connected with the case, however, is that the unfortunate man was medically examined two days previously by Dr. Woodward, of Worcester, who gave his friends a certificate of insanity, on which he was taken before Mr. Barnett, one of the city magistrates, who declined to endorse the document

because "the questions put to the deceased were so fairly and openly answered." We take the account of the inquest that followed from the *Worcestershire Chronicle*, and it appears that several questions were asked by the jury as to why the magistrate declined to be responsible for the detention of this lunatic. It does not appear to have been known to the jury that when a justice of the peace is required to certify in a case of alleged lunacy brought before him by a relieving officer, under the Act of Parliament which makes that functionary the prime mover in such matters, he must exercise his personal judgment, albeit he is unqualified.

## THE EDINBURGH GRADUATES' CLUB.

THE quarterly dinner of this Club was held on Wednesday night. There was a large gathering under the genial presidency of Professor Maclagan, whose speeches and songs contributed greatly to the pleasure of the members and of their guests. Amongst the visitors were Dr. John Hullah; the Rev. Dr. Stewart, of the Zambesi; Mr. John Noble, Clerk to the House of Assembly of Cape Town; Mr. Henry Power, Dr. Maudsley, Dr. Blandford, Dr. Ord, Mr. Silver, and others. At the annual meeting, held immediately before the dinner, the secretary's and treasurer's reports were read and adopted. The Club thrives; it has 308 members, of whom 16 have been added during 1878. The accounts show a balance of £118 18*s.* 10*d.*, and an investment of £369. It was intimated in the course of the evening that his Royal Highness the Duke of Edinburgh will preside at the next meeting.

## EPIDEMIC OF ENTERIC FEVER.

WE regret to learn that a serious epidemic of enteric fever has suddenly broken out over an extensive area in the county of Surrey, affecting, among other places, Redhill, Earlswood, and Caterham. During the past week a careful inquiry into the causes of the outbreak has been made by Dr. Thorne Thorne, of the Local Government Board, and by Mr. E. L. Jacob, Medical Officer of Health for the Surrey Combined Sanitary Districts. Evidence has already been obtained to the effect that the water-supply of the infected localities, which is derived from the deep wells of the Caterham Water Company, is responsible for the spread of the fever, and the facts in favour of this view are so strong that, notwithstanding the deservedly high reputation which this water has long enjoyed, public notices are now fixed up to the effect that the water has in all probability been accidentally contaminated, and that it is temporarily unsafe for domestic purposes, and urging those who cannot possibly obtain another supply to boil it thoroughly before using it. We learn that the Water Company are rendering all possible assistance in the inquiry.

## THE "BURSLEM MURDER."

THIS remarkable case has most properly ended in the acquittal of the prisoner, against whom there did not appear to be one tittle of real evidence. It appears that the accused, John Pointer, aged twenty-eight, a potter, "kept company" with Eliza Bloor, a widow, aged forty-four. On the evening of October 5th they met in a public-house, where they partook of a few glasses of beer, and about half-past nine on the same evening they were seen walking together on a public and much frequented foot-path near the town of Burslem. About an hour later the woman was seen lying on the grass, the prisoner supporting her, and the prisoner asked assistance of a passer-by because, as he said, the woman was "dead drunk." It was found that the woman was really dead, and that for more than 300 yards along the foot-path on which they had been walking were found pools of blood at intervals. Medical examination showed that the blood proceeded from an incised wound, about an inch long, within the vagina, which had divided the pudic artery. The prosecution tried to prove that the prisoner had inflicted the wound with a knife; while the defence advanced the theory that the wound had been inflicted accidentally by a piece of sharp glass while the woman was in the act of squatting for the purposing of micturating. There was no direct evidence either of knife or glass, and since it was proved that the prisoner never carried a knife, and had never made any effort to screen himself, or to hide the body, although disused coal-pits and other hiding-places were at hand, he was at once acquitted by the jury. The cause of Eliza Bloor's wound remains a mystery.

## SAFETY IN MINES.

IT is satisfactory to learn that a Royal Commission has been appointed to investigate the conditions of the atmosphere in mines, and to formulate the laws of safety. It is most devoutly to be desired that some practical conclusion may be reached by this inquiry. Apart from the difficulty of enforcing discipline among a class of men who are typically rough and reckless, though animated with many of the most manly instincts and sympathies, there is the general obscurity in which the cognate subjects of ventilation and lighting have been left by previous scrutineers. We have expressed strong opinions and made specific suggestions in this matter, which we trust may not be unheeded by the Commission. It is to be regretted, we think, that no practical medical authority is included in the list of Commissioners. This is a matter in which something more than a knowledge of the theories of life needs to be brought to bear on the inquiry. A practical worker in the department of vital chemistry would have been able to deal more directly with much of the evidence which may be expected, than the most profound and expert of philosophic theorists and experimenters.

THE University of St. Andrews has done a graceful act in conferring the hon. degree of LL.D. upon Dr. Crichton Browne, who is a medical graduate of Edinburgh. The recognition of merit should be cosmopolitan in its motive and sphere, although it is more satisfactory when a prophet is held worthy of honour in his own country as well as abroad. Dr. Crichton Browne has done good work in the specialty he represents, one which, it must be regretfully confessed, has not illumined the world of science in late years with many shining lights. Whether it is that the specialty of lunacy has degenerated into a superior sort of hotel-keeping, and clever household administration, or some other blighting influence saps the energy of men who make a specialty of treating madness, they do not certainly, as a body, show great results, for all their pains and researches.

LYMINGTON is in need of a medical officer of health, and members of the sanitary authority differed in opinion whether a salary of £70 or £30 per annum should be offered. The matter, however, was happily settled to the satisfaction apparently of all members of the authority by offering no salary at all. This decision being arrived at, the chairman sagaciously remarked, "the Local Government Board cannot find fault with us now we offer nothing."

BY the death of Mr. M'Dowell, of Dublin, a vacancy in the Council of the Royal College of Surgeons in Ireland has taken place. Already there are three candidates for the vacant seat—viz.: Mr. Edward H. Bennett, Professor of Surgery in the University of Dublin; Mr. Swanzy, Professor of Ophthalmic Surgery in the Royal College of Surgeons; and Mr. Baker, a dental surgeon. It is probable that additional names may soon be forthcoming.

THE President of the Royal College of Physicians has convened a meeting of the College, to be held on the 18th inst., at 5 P.M., to consider what steps should be taken, in the interests of the public, in view of the reported existence of the plague in the east of Europe.

DR. CARLYLE, of the Hill, Dumfries, has forwarded a donation of £1600 for the medical bursaries of the Edinburgh University. The Association for the better endowment of this university recently adopted a special vote of thanks to Dr. Carlyle, in acknowledgment of his munificent gift.

THE Gresham Lectures will be delivered in the Gresham College, Basinghall-street, on February 18th and three following days. Dr. Symes Thompson has chosen "The Medical Aspects of Insurance" as the subject of his course this year.

THE bust of Mr. John Simon, C.B., F.R.S., the President of the Royal College of Surgeons, will be officially presented and on view to the members of the College this day (Friday), after the delivery of the Hunterian Oration.

THE current number of the *Fortnightly Review* contains an important article on the study of Greek in our schools and universities, which we propose to notice more fully next week.

## PROFESSOR REDWOOD ON ELECTRICITY AS A SOURCE OF LIGHT.

IN his second lecture Professor Redwood, having previously described the processes by which the electric light is produced with carbon points, referred to what has been represented as Mr. Edison's method of producing the light by rendering platinum, or an alloy of platinum and iridium, incandescent. Many persons, he said, had been favourably impressed with the idea of using incandescent platinum, or iridiumised platinum, for the production of light by electricity, the light so produced being less dazzling, more steady, and less liable to sudden extinction than that produced with carbon points. The heating of a wire by passing a current of electricity through it is caused by the resistance it offers to the conduction of the electric current, and, therefore, bad conducting metals that have a high melting point, and do not readily burn in air, are necessarily used. Platinum and iridium are well suited for this purpose, the conducting power of platinum being about one-seventh that of copper, while its melting point is only exceeded by that of iridium. In using these metals they form part of the conducting wire, the continuity of which remains unbroken; there are, therefore, no poles or electrodes to be adjusted, as is the case with carbon points, and in this way one great difficulty is removed.

The heating and, consequently, the luminous effect produced in a wire through which a current of electricity is passing, depends on the strength or quantity of the current, and this is irrespective of the length of the wire—that is to say, the same quantity of electricity that would heat a platinum wire a foot in length would equally heat a hundred or a thousand feet. This statement, at first sight, appears rather startling, and it requires further explanation of the meaning of the terms used. In explaining this part of the subject Professor Redwood said that although its practical bearing in connexion with electric lighting had reference chiefly to the electricity of dynamo-electric machines, from which electric lights are now always supplied, yet he should be best able to explain and illustrate it by referring to the galvanic battery which he was using, and which his diagrams represented. He would not, he said, attempt to explain or even suggest what the mysterious agent they called electricity essentially was, but in describing its effects they must have some ideas as to its mode of action, and he would therefore say that bodies under the influence of electricity assume a condition in which they are said to be polarised—that is, in which two extremities are in different states, one of which is called positive and the other negative. These opposed states may be acquired by masses of matter, such as the charcoal terminals employed for producing the electric arc, and also by the ultimate particles or molecules of which the masses are composed, such as those which fly across from one pole to the other in producing the arc. This polar condition pervades the solid and liquid elements of a galvanic battery, and also the conducting wires through which the force is conveyed, and which force originates in the chemical action occurring in each cell of the battery between one of the metals, the zinc, and the acid in contact with it.

The polar condition thus acquired admits of various degrees of intensity. Bodies or particles may be slightly polarised or strongly polarised, which we may assume to arise from the separation to a greater or less extent of what we call the positive and negative electricities, and their accumulation at or about the opposite extremities or poles. In consequence of the repulsion existing between similar and the attraction between dissimilar poles, it is assumed that the particles, when thrown into an electrical condition, acquire a symmetrical arrangement, in which all the positive poles point one way and all the negative poles the opposite way. There would thus be continuous lines of polarised particles, and these are called polar chains. They start from the surface of the active metal, the zinc, in the battery, they extend across the liquid in the cell to the inactive metal, and from thence through the conducting wire attached to the inactive metal, while similar polar chains pass in the opposite direction through the wire attached to the active metal. With reference to these polar chains, two things have to be considered. The first is the number of such lines of polarised particles in a circuit, and the second is the polar condition of each link in a chain. The number of polar chains in a circuit chiefly depends upon the extent of available surface of the metals in the battery, and the energy of the chemical action occurring between the active metal and the acid; and the polarity of the separate links in a chain chiefly depends upon the number of cells in a battery. The number of electropolar chains determines the quantity of electricity in a circuit, and the polarity of the links in a chain determines the intensity or tension of the force.

The same thing applies to the electricity produced with a magneto- or dynamo-electric machine, in which, as well as in the battery, there are means for altering the relation between quantity and intensity.

The heating of a wire by a current of electricity is caused by the crowding of a greater number of polar chains through it than it is capable of freely conducting. Resistance is offered through the imperfect conducting power of the wire, and heat is then developed which may be increased to the melting point of the metal. The amount of heat will depend upon the quantity of electricity—that is, the number of polar chains; but as these meet with new resistance at every step, this can only be overcome by increased tension or elasticity, this condition of the force being that by which resistances are overcome.

"Thus," said Professor Redwood, "if I have a current of a certain quantity of electricity of low tension, it will heat a wire, the thickness of which will depend upon the *quantity* of force, but the length of it that can be so heated will depend upon the tension by which new resistance at every step in its progress will require to be overcome. As I lengthen the wire, therefore, I must increase the tension, or if I fail to do so the heat will become less, because polar chains will be broken, so as to lessen resistance. It is tension alone that enables us to maintain unbroken chains through imperfect or restricted conductors. So also in the disruptive discharge of electricity, it is tension, or electromotive force, that enables the current to leap across from one electrode to the other in the production of the electric arc, and there will be a demand for this form of the force in proportion to the number and amount of the resistances thus presented.

"There appear to be two methods by which a single current of electricity is made to support several lights, as adopted in the arrangements hitherto introduced. One consists in carrying the current directly from lamp to lamp, and thus having several breaks in it, through which, when in action, it leaps, as is done with the Wallace-Farmer lamps and the Jablochkoff candles; and the other consists in leading off short branch wires from the main cable to

each lamp, in which case some resistance is interposed, as appears from the published accounts and the drawings relating to Werdermann's system. In either of these arrangements the number of lamps that can be supported on one current will depend on the tension of the current. If the former method is adopted, and the tension is sufficient to support an arc of one inch in length for a single lamp, this may be broken into four or five arcs of proportionately shorter length for the supply of that number of lamps, the largest number of breaks practically adopted having been about five. If there be this increased number of breaks, and the current fails at any one of them, all the lights in the series will be extinguished. Mr. Werdermann's method is designed to obviate such a result. One of the difficulties in the way of dividing the current for the production of a variable number of lights is that there must be expenditure of motive power equal to the production of the maximum amount of force required, and as there are no means of storing that which is not used, if there should be excess, it is necessarily lost."

The Professor having disposed of this part of the subject, proceeded in the next place to describe the introduction of the modern form of what is called the dynamo-electric machine, by which large supplies of electricity are produced, such as are required for the electric light, and without which no effectual progress could have been made in the application of electricity as a source of light. He showed that these machines, which were represented as having no permanent magnets, are in fact magneto-electric machines, in which a small amount of magnetism commonly occurring in iron, derived either from the influence of the earth's magnetism or from some other cause, is made the source of a weak current of electricity sufficient to excite an electro-magnet, and then these by mutual action and reaction have their power intensified to the required extent. The most successful part of the arrangements recently introduced in connexion with electric lighting appeared from Professor Redwood's description to be that which relates to these machines, the construction of which, as well as the principles of their action, were fully explained and illustrated.

The lectures were attended by crowded audiences, including many scientific and medical men and the President and Council of the Pharmaceutical Society, by whom a vote of thanks was cordially passed to the lecturer.

## HEALTH OF LARGE ENGLISH TOWNS IN THE SIXTH WEEK OF 1879.

DURING last week 5451 births and 4015 deaths were registered in twenty of the largest English towns. The births exceeded by 369, and the deaths by so many as 645, the average weekly numbers during 1878; the deaths showed a further increase of 237 upon those returned in the two previous weeks. The annual death-rate in the twenty towns further rose to 28·4 per 1000 last week, from 26·2 and 26·7 in the two preceding weeks. During the past six weeks of the current quarter the death-rate in these towns has averaged 27·6, against 22·6 and 25·6 in the corresponding periods of 1877 and 1878, and was higher than in the first six weeks of any year since 1875, when it was equal to 29·1. The lowest death-rates in these towns last week were, 22·0 in Leicester, 22·2 in Nottingham, 22·4 in Newcastle-upon-Tyne, and 22·5 in Sheffield. The rates in the other towns ranged upwards to 36·1 in Wolverhampton, 37·8 in Salford, 40·4 in Manchester, and 41·3 in Liverpool. The excessive death-rates in Manchester and Liverpool appear to be mainly due to the exceptional fatality of lung-diseases. The weekly returns from Liverpool show that during the past six weeks diseases of the respiratory organs and phthisis have caused within the borough an annual death-rate of 16·1 per 1000; whereas in London the rate from the same diseases in the same period has not exceeded 11·1. To the seven principal zymotic diseases 413 deaths were referred in the twenty towns last week, against 444 and 393 in the two preceding weeks; they included 136 from whooping-cough, 128 from scarlet fever, and 51 from fever, principally enteric. The annual death-rate from these seven diseases averaged 2·9 per 1000 in the twenty towns; it ranged from 0·7 and 1·0 in Plymouth and Brighton, to 4·7 in Birmingham, 6·4 in Sunderland, and 8·2 in Salford. The fatality of scarlet fever showed a general increase; the excess was largest in Sunderland, Salford, Oldham, and Newcastle-upon-Tyne. The deaths referred to enteric fever were proportionally most numerous in Portsmouth and Salford. Small-pox caused seventeen more deaths in London, but not one in any of the large provincial towns.

## THE PLAGUE.

THE irrational dread which has spread throughout the continent of Europe, in consequence of the outbreak of plague in Astrakhan, still continues, and hurries Governments towards the adoption of measures preposterously out of proportion (to say nothing of their quality) with the assumed danger of infection to which their countries are exposed. Spain and Italy have now established a quarantine of twenty days, and Greece of twenty-one days, against vessels arriving in their ports from the Black Sea and Sea of Azov. Moreover, the press teems with wild rumours of the extension of the disease. It has been reported as having appeared in the vicinity of Moscow, in the neighbourhood of Kiev, on the Bosphorus, in Asia Minor, and in Thessaly. An outbreak of petechial typhus, it appears, gave occasion for the report in Thessaly, typhoid on the Bosphorus, diphtheria in the neighbourhood of Kiev, and an "abortive typhus" near Moscow. Now that it is made known that plague has been in parts of Russia since 1877 (see another page), the explanations as to Russian rumours must be received with some degree of reserve. The circumstantiality of the several reports proves, at least, that the several populations among which they had origin have been most thoroughly frightened by the news from Astrakhan, and by the panic-stricken measures adopted there and by the several Governments of Central Europe. Excepting a few cases, not exceeding six, at Selitrenja, on the left bank of the Volga, the province of Astrakhan was reported free from the disease on the 9th inst. Notwithstanding this favourable report, the measures for completely hemming in the infected districts were being stringently prosecuted at the date named, and troops were still in rapid motion to strengthen the *cordon sanitaire*. General Loris Melikoff arrived at Tsaritzin on the 9th inst., and assumed supreme control of the arrangements for the limitation of the plague on the Lower Volga and adjacent districts. The spectacle now to be witnessed in the localities in question appears to be altogether the most demonstrative illustration of locking the stable-door after the horse has been stolen that Europe has perhaps seen for many years.

The medical staff distributed in the infected district in Astrakhan is now reported to be very large. Thirteen medical men are said to have been already attacked and killed by plague.

A commission has been formed in St. Petersburg for the purpose of framing and organising measures for the protection of that city. The medical members consist of Dr. Maydall, chief of the medical department of the province, Dr. Hübner, the secretary of that department, Dr. Butaline, principal medical officer of the police, M. Berteman, inspector of the medical service of the rural district, and Dr. Kastersky, attached to the Ministry of the Interior.

The German Imperial Sanitary Department has published a report on the origin and spread of the plague in Astrakhan, of which the most important part consists in the statement that cases of a kind indistinguishable from those which ushered in the outbreak of November last, were observed in various spots in the province of Astrakhan as early as May, 1877.

Dr. Seidlitz, who in 1828-9 witnessed the ravages of plague among the Russian forces in Turkey, and wrote several well-known memoirs on the subject, is stated to be still living at Dorpat. At the time of the Russo-Turkish war of the date named, he was one of the Professors of St. Petersburg School of Medicine. Dr. Arnong, another medical man who had charge of a plague hospital in the campaign of 1828-29, has been communicating to the *Golos* the results of his experience of the disease at that time.

The Privy Council has given instructions, under the Quarantine Act, for the examination, by the Customs, of the

bills of health, passengers, and crews, of all vessels coming from any of the ports in the Black Sea or Sea of Azov. This measure of "precaution" (!) has been taken, it is reported, "notwithstanding their Lordships' belief that there is no ground for alarm as to the importation of the disease into this country."

# Correspondence.

"Audi alteram partem."

## "LITHOLAPAXY *VERSUS* LITHOTRITY."

*To the Editor of* THE LANCET.

SIR,—Will you allow me space for a remark or two suggested by the carefully-made statements relative to lithotomy and lithotrity in your leading article of last week.

My first remark regards the "surprise" you expressed that I had said at my lecture of the week before, "my own system has for a long time past been gradually inclining to the practice of crushing more calculus at a sitting, and removing more débris by the aspirator, than I formerly did." I do not, of course, expect you to take note of signs of changes in my opinions and method; but more than three years ago, and in THE LANCET of Jan. 8th, 1876, I made a statement which plainly taught the change in question, and was specially intended to do so. I commenced by "particularly desiring to call attention to two or three subjects in connexion with lithotrity," adding that it had of late years made considerable progress, and "that, insensibly as the result of experience and careful observation, modifications of practice have gradually taken place." The first of these I explained was, that cases in which the bladder becomes irritable or inflamed should be treated, not by waiting, but by free crushing and removal of débris by Clover's aspirator. Next, having given my reasons, I stated that it was my habit now in all cases to "avail myself of the opportunity to do a larger amount of crushing than I did." All this is enforced at greater length in the last edition of my lectures,[1] published also in 1876, and will be carried still further in the fifth edition now going through the press.

Again, in reference to Mr. Clover's aspirator. I have always used it, although less frequently at first than I have of late years, the reason for which I also gave in the lectures of 1876. I am sure Mr. Clover himself must have witnessed its action in my hands several hundred of times at least. In thus modifying my system, I do not feel that I can be fairly said to "abandon my position." Such a metaphor scarcely applies to a gradual change of practice resulting from large experience. It would be strange—indeed, I think it would be a matter of shame to myself—had I not learned much and changed something in the experience which the last twenty years has brought me in relation to this subject. During that time I have operated on between six and seven hundred cases of stone in the bladder; upwards of one hundred by lithotomy, the rest by lithotrity.

And in connexion with this subject allow me to remark that no true deductions will ever be made relative to the comparative value of the two operations while they continue to be regarded as two rival and opposing procedures. *The important fact is that they are useful only as allies.* Lithotomy and lithotrity are complementary of each other; the one accomplishes what the other is not equal to perform, while the latter does easily, within its limits, that for which the former is unnecessarily severe and dangerous. Thus, harmoniously combined, the two operations will yield the best results when practised by a surgeon who is ready to do either indifferently and without prejudice. On the other hand, when these operations are applied by the partisans of either system exclusively, stone-patients must suffer, and no adequate knowledge as to results can possibly be attained. It was no doubt an unfortunate circumstance that when lithotrity was first introduced a claim was made that it was capable of superseding lithotomy, the result being to arouse a degree of jealousy and antagonism on the part of many surgeons who naturally could not be expected to accord such a place to the new operation, and this feeling has not yet perhaps quite subsided. Had a modest position at that time only been demanded, lithotrity would probably long ago have been universally accepted, its proper use recognised, and the idea of rivalry or antagonism might never have arisen.

This view of the complementary character or relationship of the two operations, which I briefly indicated at the meeting of the Royal Medical and Chirurgical Society you have referred to, will appear, on reflection, to be a most important one, and deserving to be kept clearly before the mind of the profession. As I there said, having myself not the slightest preference or prejudice in relation to either operation, I desire in each case that comes before me to choose that which appears most likely to be successful. I further stated that the proportion of my lithotomy cases had of late slightly increased in relation to those of lithotrity, and also that it had been my habit to remove débris more largely, and thereby reduce the number of sittings in performing the latter operation.

I am, Sir, yours &c.,

Wimpole-street, February 10th, 1879. HENRY THOMPSON.

*** We were quite alive to the possibility of Sir Henry Thompson having found it necessary or expedient to modify his first opinions of the relative values of lithotrity and lithotomy, and therefore took the precaution, before penning the remarks on litholapaxy and lithotrity, to carefully re-read the chapters to which Sir Henry now refers us as the latest published exposition of his views. At page 172 of this edition, in dwelling upon the peculiar merits of his own lithotrite, he says, "The mere sojourn of the instrument in the bladder is a source of irritation precisely corresponding to the time, within certain limits, it continues there"; and at page 174 he adds, "It has, therefore, been an object with me to lessen as much as possible *the number of instruments employed, the amount of manipulation applied to them, and the time devoted to this process. I have shown you how, in conformity with this principle, I have endeavoured to produce an instrument which should give the least possible irritation.*" It was on these statements (the italics are ours) that our surprise was mainly based. The *principle* of Professor Bigelow's operation is, that it is better to thoroughly comminute the calculus and remove all the fragments *at once*, even though more than three hours be required to complete the operation; whereas Sir Henry Thompson has never before permitted at the first "sitting" more than "one introduction of the lithotrite; crushing four or five times during a sojourn, say, of two minutes in the bladder"—adding parenthetically, "although you know I do not occupy so much time myself" (page 188). We do not, of course, impugn Sir Henry Thompson's right to modify his opinions by the light of experience, and even to change them; but we cannot close our eyes to the fact that the views advanced in his lecture of the 1st inst. do involve an abandonment of his old position. Lithotrity as hitherto practised by him, and lithotrity as recommended and performed by Professor Bigelow, are different operations, and based on opposite and contradictory principles. Further than this we did not go; we purposely abstained from passing a judgment on either procedure. As to the complementary relations of lithotrity and lithotomy, the best surgeons have never doubted that each had its proper sphere. Speaking as the Hunterian Professor of Surgery to the Royal College of Surgeons, the late Sir William Fergusson said in 1865: "A first-class surgeon of the present day cannot be allowed a right to be only the lithotomist or lithotritist. He must hold the balance between the two operations, and decide, as best he can, which of the two shall be selected. That is the question, and a mighty difficult one indeed it often is. ..... I confess that my experience, instead of lessening my hesitation on this question, has rather added to it." This is the utterance of a man who enjoyed the reputation of being one of the best practical surgeons, if not the best, of the age. Sir Henry Thompson, on the other hand, has from the first edition of his clinical lectures in 1863 to the last in 1876

[1] Lectures on Diseases of the Urinary Organs, fourth edition. London. 1876.

never deviated from the rule that above puberty "lithotomy is only exceptionally available" (p. 161), and lithotrity should be employed with few exceptions (p. 165); while at page 167 he confidently predicts that lithotomy "will disappear most assuredly." Sir Henry Thompson very properly lays great stress on the value and importance of the practice of treating cases in which the bladder is irritable or inflamed as a result of a crushing, by further free crushing and removal of débris by aspiration. But, however novel the practice may be, there is nothing new in the principle. To remove foreign substances from violently reacting tissues is the most obvious indication of surgery, whether the offending substance be fragments of stone in the bladder, a sequestrum of dead bone, or an obnoxious ovarian tumour. To take an extreme case, we may point to the splendid results obtained by Dr. Wiltshire, Mr. Pridgin Teale, and others in performing ovariotomy during irritative peritonitis. As for sharp fragments of stone in an inflamed bladder, the only doubt that may legitimately possess the surgeon's mind is, whether evacuation would be best secured by crushing and aspiration, or by cystotomy.—ED. L.

## ON OSTEOTOMY OF THE FEMUR AND TIBIA FOR GENU VALGUM ET VARUM.

*To the Editor of* THE LANCET.

SIR,—In your issue of 25th January, 1879, Mr. Barwell writes under the above heading, dividing his letter into four paragraphs, which I answer *seriatim*.

1. He states that the object and direction of my "second procedure," as described in my first published lecture, are left uncertain; that he had no idea until a few days ago that I operated transversely across the femoral extremity, and that my name has hitherto been identified with a certain mode of loosening the internal condyle. In that first lecture of mine it is stated that the site selected for the operation was the *inner side* of the condyloid femoral extremity, a short distance *above* the synovial pouch and *clear of the epiphysis*, and in operating in that situation it is desirable that the instrument be made to penetrate well through the bone before attempting to rupture the *outer* layer; giving as a reason for so doing that *the chisel penetrates further than half the diameter of the bone*, that, if this is *not* attended to, an obliquely longitudinal fracture is apt to ensue, thus separating the internal condyle. Then I state that *the separation of the internal condyle ought to be carefully avoided*, pointing out its defects. How anyone, after reading this, could entertain the idea that I aimed at separating the internal condyle, is beyond my comprehension. *At that time* all my operations for knock-knee were performed by me transversely across the femur, above its epiphysis.

2. Mr. Barwell next states that his operation was antecedent to "Dr. Macewen's second procedure;" then he says, "for although he gives no date for the adoption of that method in his first lecture, one may by internal evidence fix the second week in March as the right epoch (in the last lecture, Dec. 28th, he speaks of May 10th, probably meaning March 10th); thus my operation for knock-knee precedes Dr. Macewen's 'second procedure' by twenty-four days." If Mr. Barwell were looking at my last lecture, he would find that there is no date given for the "second procedure," and that the 10th May is the date on which I performed an operation for knock-knee by removal of a wedge from Ogston's line. Though he does not condescend to state the nature of his internal evidence, I presume he believes himself able to gather this from the above date and the time of publication. In his deduction he might have been better guided, as the 10th March is a Sunday, a day on which we do not deliver formal clinical lectures. Further on it states, in that lecture, that the wound was looked at two weeks after the operation. This would bring the date up to the 24th March, leaving four days for the writing, correcting of proofs, and publishing in THE LANCET. The date of my "second procedure" is 2nd February, 1878; consequently that is prior to Mr. Barwell's first case of knock-knee.

3. Mr. Barwell in this paragraph states that I perform and advocate at the present time an operation which he practised twenty months ago, and that I do not mention his name in connexion with it. In this one sentence there are three errors. His operation for knock-knee is the division of *three* bones, the femur, tibia, and fibula. I do *not* perform and advocate this operation; on the contrary, in my lecture I condemn it, stating that I never saw a case that required the fracture or osteotomy of the fibula for knock-knee; so that I did not, do not, and, for the reasons given in my paper, probably never will, perform Mr. Barwell's operation for knock-knee. Secondly, if Mr. Barwell will turn to THE LANCET for 28th December, 1878, p. 913, he will find this sentence:—"In a paper, published on May 25th, 1878, Mr. Barwell relates a case in which he had to divide both tibia and fibula, and proposes these operations for certain cases of knock-knee." I leave you, Sir, and your readers, to judge whether or not Mr. Barwell's name and operations are not mentioned here. In certain exceptionally severe cases of knock-knee I proposed another operation—the division of *two* bones, the femur and tibia. This, as far as I am aware, no other surgeon practised previously. It was first done by me on April 24th, 1878, and several times repeated prior to the publication of Mr. Barwell's first case of knock-knee, in which he divided *three* bones. One would imagine that at least he would be at home among his own operations and their dates, but even this is not so. He states in his letter that he divided both femora and tibiæ and fibulæ for bow-leg, and on February 14th, 1878, he divided the same bones for knock-knee. This last part, referring to knock-knee, is wrong, as he may find by turning to his own lecture of May 25th, 1878, where he will find that he did not divide the tibia and fibula (singular instead of plural) for knock-knee till March 7th, 1878. By making this correction Mr. Barwell will see that I have read his lecture, which is more than he seems to have extended to my production which he criticises.

I therefore claim precedence for the several methods of operating for knock-knee detailed by me. As to bow-leg, I perform and advocate a procedure different from that of Mr. Barwell.

These are answers to Mr. Barwell's note, and I hope they will prove satisfactory. Your readers, however, may be disposed to think that we are inclined to forget the name of Volkmann, whose principles of removal of V-shaped portions of bone by simple osseous incision we are but applying to particular parts; and also that of Lister, without whose antiseptics these operations would not be thought of. It would be as much affectation to overlook, as it would be presumption in me to praise, Mr. Barwell's good work in osteotomy; but, believing that there is yet abundance of work for both in that same field, I heartily, in conclusion, wish him God-speed.

I am, Sir, your obedient servant,

Glasgow, January 31st, 1879. WILLIAM MACEWEN.

## DISPENSARY WORK IN GLASGOW.

*To the Editor of* THE LANCET.

SIR,—In your issue of the 25th ult. the following sentence occurs in a notice of the Dispensary of Anderson's College, and quoted as from your "Glasgow Correspondent":—"It was noticed in June last that, for the first time in Glasgow, a dispensary, the leading feature of which was the visitation of the poor at their own homes, had been established in connexion with Anderson's College."

For more than eleven years now, the home-visitation of the sick poor has been a prominent part of the work of the Glasgow Medical Missionary Society, and every visit thus paid has been by a qualified medical practitioner, unlike those of Anderson's College, which are made by students. Thus in 1877 as many as 2765, and in 1878, 2205, visits were paid to the home sick, over and above the large dispensary work proper connected with their North-side and South-side Dispensaries. Home-visitation of the sick poor by students is not, I am happy to say, "*the* leading feature" of the Anderson's College Dispensary, or that for which it can best claim sympathy and support. The valuable consultations given within its walls by a qualified staff are at once the largest and best part of its work. It is a very extraordinary judgment which will reckon the service of the last named as of subordinate value to that of "third- or fourth-year's" students.—Your most obedient servant,

R. LAIDLAW, M.B., F.R.C.S. Edin.

Belmar-terrace, Pollokshields, 5th February, 1879.

# Obituary.

## JOHN MACROBIN, M.D.,

EMERITUS PROFESSOR OF MEDICINE, ABERDEEN.

JOHN MACROBIN was born in 1804, at Edinburgh, where, at the High School and University, he received his general and medical education. He graduated in 1826, having obtained the diploma of the College of Surgeons in the previous year. He worked for some time with the late Dr. Alison, at the infirmary and in his dispensary practice in the poorer parts of the city. An intimate friendship formed between the two, which ripened with advancing years. In 1830 Dr. Macrobin was appointed resident physician to the Royal Lunatic Asylum, Aberdeen. He soon, however, settled down to practice in Aberdeen, and was made visiting physician to the asylum. Later he became consulting physician, which appointment he held at the time of his death. In 1832, on the recommendation of the late Dr. Abercrombie, of Edinburgh, Dr. Alison, and Sir James M'Grigor, he was appointed Crown assistant to Professor Skene, and on the death of the latter, in 1839, succeeded him in the Regius Professorship of Medicine. He held this chair for the long period of thirty-five years, resigning in 1875. He was Dean of the Medical Faculty from the time of its institution until he resigned his chair, being three times successively elected for periods of five years. Dr. Macrobin represented jointly the universities of Edinburgh and Aberdeen in the General Medical Council for five years. Quite recently, when a vacancy appeared probable in the Aberdeen University Court, Dr. Macrobin was chosen by his medical *confrères* as their representative. Owing, however, to a technical point, no vacancy was declared, Dr. Christie, promoted to the chair of History, not vacating his seat on the University Court.

The only work Dr. Macrobin published was "An Introduction to the Study of Practical Medicine," a class-book for his students. His long periods of office as Professor of Medicine and Dean of the Medical Faculty brought him into close contact with the students. He was a very efficient teacher of the principles of medicine, but it is to be greatly regretted that, not being attached to the Royal Infirmary, he had no opportunity for the practical teaching of his subject. The consequence was that, whilst his pupils were very successful at examinations, they were not equally good at the bedside. His successor in the chair does not labour under this disadvantage.

Dr. Macrobin was exceedingly amiable, cheerful, and sympathetic in disposition, and so had a very large circle of personal friends. He laboured at all times to promote the interests and comfort of his students, to whom he was extremely hospitable. His zeal to advance the welfare of the Medical School is acknowledged by his successive re-election by his colleagues to the office of dean. He was essentially a religious man, with the courage of his convictions. At the time of the disruption he seceded from the Established Church, and remained to the time of his death an elder of the Free Church.

The affection and respect in which he was held by his former students and friends is shown by the fact that, on the occasion of his retirement from his chair, his portrait in oils was painted by Mr. George Reid, R.S.A., by subscription, and the benign and thoughtful face of "the old dean" looks down from the walls of the hall of Marischal College, where he long officiated.

Never a robust man, Dr. Macrobin had been in failing health some months, and becoming very prostrate, he passed away in peace of mind and body on Feb. 4th, in the seventy-fifth year of his age. Dr. Macrobin leaves a widow, one son, and four daughters, and their mourning will be shared by many friends.

By the request of the Senate, with the consent of his family, the funeral took place from the hall of Marischal College, and his body was taken to Mellfield Cemetery, followed by a large number of his former colleagues and friends, amidst many signs of respect on the part of the city in which he was for so many years a prominent figure.

## BENJAMIN FRANCIS McDOWELL, M.B., F.R.C.S.I.

IT is with deep regret we record the death of this member of the profession, who died at his residence in York-street, Dublin, on Saturday, the 8th inst. Mr. McDowell, who succumbed from hepatic disease at the early age of thirty-eight, was one of the most rising surgeons in the city in which he practised, and was much esteemed for his professional skill, combined with a kind and genial disposition. A graduate in medicine of the University of Dublin, a Fellow of the Royal College of Surgeons of Ireland, and member of Council of the same body, he held the lectureship on Materia Medica in the Ledwich School of Medicine, and the surgeoncy to the Westmoreland Lock and Mercer's Hospitals. About a year or so ago serious symptoms of disease presented themselves, and he was obliged to leave Dublin for several months; but the improvement, if any, was but temporary, and his friends regretted to see that his health was slowly but surely breaking down. His remains were removed last Tuesday for interment from York-street by rail to Dunleckney, County Carlow, the funeral *cortège* being attended by a very large number of the profession, as a token of the respect in which the deceased was held.

## JOHN EVANS, M.B. LOND.

WE regret to have to announce the death, suddenly, of Mr. Evans, who had practised in Sunderland for thirty-five years. During nearly the whole of this time he held the appointment of district medical officer for Sunderland parish. He was greatly respected by the public and by his medical brethren, and was much in demand in difficult obstetric circumstances. He graduated Bachelor of Medicine in the University of London in the year 1844, after being educated in University College. He was fifty-nine years of age.

# Medical News.

APOTHECARIES' HALL.—The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on Feb. 6th:—

Pegge, William Joseph, Newton-heath, Manchester.
Vores, Arthur, Great Yarmouth.

The following gentleman on the same day passed the Primary Professional Examination:—

Sweeting, Richd. Deane Roker, London Hospital.

DR. HUMPHRY, of Cambridge, will deliver the Hunterian Oration at the Royal College of Surgeons to-day (Friday).

THE Centenary of Sir Humphry Davy was celebrated at Penzance on Thursday, and is continued this day (Friday).

ROYAL IRISH ACADEMY.—At a meeting held last Monday, Dr. J. G. Beaney, of Melbourne, and Dr. A. Meldon, of Dublin, were elected members of the Academy.

IT is intended to convene a meeting of the citizens of Dublin to consider the necessity for the establishing of a Convalescent Home to prevent the spread of infection, and to make some provision for the wants of convalescents, especially those of the better classes.

THE number of deaths registered in London last week was 1839, and included 17 from small-pox, 13 from measles, 38 from scarlet fever, 11 from diphtheria, 47 from whooping-cough, 20 from different forms of fever, 13 from diarrhœa, 396 from bronchitis, 129 from pneumonia, and 62 from different forms of violence.

MANCHESTER MEDICO-ETHICAL SOCIETY.—The annual meeting of this Society was held on January 30th. The following gentlemen were elected as officers for the year 1879:—President, Dr. John Thorburn; Vice-Presidents, Drs. W. H. Barlow, C. H. Braddon, R. H. Ledward, Peter Royle; Treasurer, Dr. J. Stone; Hon. Secretaries, Dr. A. Wahltuch, Mr. T. Broadbent; Committee, Drs. J. B. Brierley, A. C. Clarke, E. Bishop, J. S. Fletcher, F. M. Pierce, J. F. Tatham, J. Ross, J. Watson; Messrs. S. M. Bradley, R. D. Fox, and T. H. Pinder.

THE Board of Guardians of the Easingwold Union, with the consent of the Local Government Board, have presented Dr. F. Sidney Gramshaw, L.R.C.S. Ed., medical officer of the Stillington district, with a check for £5, in addition to the usual fee, as a mark of their appreciation of his care and skill in a case of amputation at the knee-joint.

HEALTH OF DUBLIN IN 1878.—During the past year 9513 births and 9269 deaths were registered in Dublin, the death-rate being equal to 29·5 in every 1000 of the population, and 12·6 per cent. in excess of the average annual number for the previous ten years. This high mortality was principally due to an increase in deaths from zymotic diseases and affections of the respiratory organs. The principal causes of death were as follows:—Bronchitis 1479 deaths, phthisis 945, small-pox 550, heart disease 396, pneumonia 347, fever 333, diarrhœa 305, whooping-cough 281, paralysis 189, mesenteric disease 174, hydrocephalus 168, cancer 143, apoplexy 134, scarlatina 132, measles 116, liver disease 106, croup 100, cephalitis 75; while 209 deaths were caused by accidents or negligence, 12 were homicidal, and 11 were suicidal.

# Medical Appointments.

AITKENS, J. A., M.R.C.S.E., L.R.C.P.Ed., & L.M., has been appointed House-Surgeon to the Coventry and Warwickshire Hospital, Coventry, vice Davis, resigned.

ALLAN, Dr. J., has been appointed Assistant Medical Officer to the Wandsworth and Clapham Union Infirmary and Workhouse, vice Jaquet, resigned.

BENNETT, J. B., F.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the Dewsbury District, vice Thornton, resigned.

BIRCH, E. A., F.R.C.S.E., L.R.C.P.I., has been appointed a Surgeon-in-Ordinary to the Chorlton-on-Medlock Dispensary, Manchester, vice Jones, whose appointment has expired.

BUTTERCASE, R., M.B., C.M., has been appointed Medical Officer for the North Longbenton District of the Tynemouth Union, vice Hislop, resigned.

CLARKE, T., M.D., C.M., has been appointed a Medical Officer to the East Dispensary, Liverpool.

COLENSO, R. J., M.R.C.S.E., has been appointed House-Surgeon to the Royal Infirmary, Windsor, vice Williams, resigned.

CURETON, E., L.F.P.S.G., L.M., L.S.A.L., has been appointed Medical Officer to the Salop Foresters' Medical Aid Association, vice Roberts, resigned.

DAVIES, E. E. C. C., M.R.C.S.E., has been appointed a House-Surgeon to the London Hospital, vice Fisher.

ELLIOTT, H. G., L.R.C.S.I., has been appointed Assistant-Surgeon to the City Provident Dispensary and Surgical Appliance Association, vice White, resigned.

EVANS, H. E., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been transferred from No. 1 to No. 2 Dispensary District of the Kilkeel Union, co. Down.

FETHERSTONHAUGH, C., M.B., C.M., L.R.C.S.I. & L.M., has been appointed an Assistant House-Surgeon to the East Dispensary, Liverpool, vice O'Connor, resigned.

GAYTON, F. C., M.R.C.S.E., L.S.A.L., has been appointed Assistant Medical Officer to the Cornwall Lunatic Asylum, Bodmin, vice Neal, appointed Superintendent of the Wandsworth and Clapham Union Infirmary.

HAYNES, P. O., M.R.C.S.E., has been appointed an Assistant House-Surgeon to the South Dispensary, Liverpool, vice Langley, resigned.

HENTSCH, J. P., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon to the Royal South London Dispensary, vice Robinson, resigned.

HIGGINS, S. McCulloch, L.K.Q.C.P.I. & L.M., has been appointed a Medical Officer to the North Dispensary, Liverpool.

HOLMES, C., M.D., L.R.C.P.L., M.R.C.S.E., has been appointed a Surgeon-in-Ordinary to the Chorlton-on-Medlock Dispensary, Manchester, vice Edwards, whose appointment has expired.

IRWIN, Fitz-John R., M.B., L.R.C.S.I., has been appointed Medical Officer to the Workhouse and Fever Infirmary of the Kilkeel Union, at £50 per annum, and Medical Officer, Public Vaccinator, &c., for the Kilkeel No. 1 Dispensary District, at £100 per annum and fees, and £15 per annum as Medical Officer of Health.

LAMBERT, W. F., M.B., C.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Abby Dispensary District of the Tuam Union, co. Galway, at £120 per annum and fees, and £20 per annum as Medical Officer of Health, vice French, resigned.

LAWSON, J., M.D., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the Hebden-Bridge District, vice Thomas, resigned.

MACDONNELL, M. A., M.D., C.M., has been appointed a Medical Officer to the North Dispensary, Liverpool.

MASON, S. B., L.R.C.P., L.F.P.S.G., L.S.A.L., has been reappointed Medical Officer of Health for Ponypool Urban Sanitary Authority, at the increased salary of £25 per annum.

O'DOHERTY, J. J., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical Attendant to the Royal Irish Constabulary, Cushendall, co. Antrim, vice Cronin, resigned.

PACKER, W. H., L.R.C.P.L., M.R.C.S.E., L.S.A.L., has been appointed an Assistant Medical Officer to the Salop and Montgomery Lunatic Asylum, Bicton.

PITTS, B., M.B., C.M., F.R.C.S.E., has been appointed Resident Assistant-Surgeon to St. Thomas's Hospital, vice Clutton, appointed an Assistant-Surgeon.

SAUNDERS, C. E., M.D., has been appointed Public Analyst for the City of St. Alban, at £15 per annum and the Fees allowed by Court on Prosecution.

SCATCHARD, T. E., L.R.C.P.L., M.R.C.S.E., has been appointed Certifying Factory Surgeon for the District of Boston, Yorkshire.

STEELE, C. E., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the North Dispensary, Liverpool.

WALSH, J. J., L.R.C.P.Ed., L.R.C.S.I., has been appointed Medical Attendant to the Royal Irish Constabulary, Ardfinnan and Ballymacarbry, vice Stafford, deceased.

WARTENBURG, V. A., L.R.C.P.Ed. & L.M., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the St. Anne's-on-the-Sea Urban Sanitary District, at the rate of £30 per annum, until the 24th December next.

WHITE, P. H., M.B., L.R.C.P.Ed., has been appointed House-Surgeon to St. Mark's Hospital for Fistula &c.

# Births, Marriages, and Deaths.

## BIRTHS.

COKE.—On the 5th inst., at Ashford, the wife of William Harriott Coke, L.R.C.P.I., of a son.

HAMILTON.—On the 7th inst., at Northampton-park, Canonbury, the wife of Thomas Hamilton, M.B., of a son.

HOPKINS.—On the 7th inst., at Highbury-new-park, the wife of Alfred Boyd Hopkins, M.R.C.S.E., of a son.

O'BRIEN.—On the 26th December, at Malabar-hill, Bombay, the wife of Surgeon-Major T. M. O'Brien, Army Medical Department, of a son, still-born.

SYMES.—On the 8th inst., at Wards End, Halifax, the wife of Edmond West Symes, M.D., of a daughter.

THURSTAN.—On the 4th inst., at Ore, Sussex, the wife of Edward Paget Thurstan, M.B., of a daughter.

WAYMAN.—On the 6th inst., at Foulsham, Norfolk, the wife of Clement P. S. Wayman, M.R.C.S.E., of a daughter.

## MARRIAGES.

BROCK—SEELS.—On the 6th inst., at the Church of Wainfleet St. Mary, by the Rev. Dallas Harington, assisted by the Rev. David Matthew, Charles De Lisle Brock, M.R.C.S., L.R.C.P., &c., of Witham, Essex, to Augusta Jane, daughter of Henry John Seels, of The Hall, Wainfleet, Lincolnshire.

PLUME—MARSHALL.—On the 23rd ult., at Christ Church, Eaton, Norwich, the Rev. H. Plume, to Eleanor, daughter of F. W. Marshall, M.B.

## DEATHS.

BLEWITT.—On the 3rd inst., at Lostwithiel, John Collins Blewitt, M.R.C.S.E., aged 72.

HORE.—On the 31st ult., at Croydon, William Hore, M.R.C.S.E., aged 75.

MOLLOY.—On the 8th inst., at Castlepollard, co. Westmeath, Henry B. Molloy, L.A.H.D., aged 78.

MOREWOOD.—On the 4th inst., at Draperstown, John Morewood, L.R.C.S.I.

O'KELLY.—On the 4th inst., at Maynooth, Edward Talbot O'Kelly, M.D., aged 68.

PAYNE.—On the 3rd inst., at Norwich, Stanley Payne, M.R.C.S.E., aged 51.

PENKIVIL.—On the 5th inst., at Worcester, Richard Savage Penkivil, M.R.C.S.E., aged 67.

RITCHIE.—On the 7th inst., at Broughty Ferry, Alexander Ramsay Ritchie, M.D.

SMITH.—On the 4th inst., at Regent-terrace, Edinburgh, John Smith, M.D.

WIGHEMAN.—On the 29th ult., at Funchal, Madeira, William Wightman, M.D., late of Ackworth and Halifax, aged 52.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.*

# BOOKS ETC. RECEIVED.

Dr. A. Ransome: Long Life and the Causes that Prevent it.
Dr. W. H. Baker: Malpositions of the Uvters.
Transactions of the American Ophthalmological Society. 1878.
The Fourteenth Annual Report of the Sanitary Commissioner with the Government of India. 1877.
Dr. W. Stephenson: The Fight with Infection.
Dr. H. Garrigues on Gastro-Elytrotomy.
Henry Morris: The Anatomy of the Joints of Man.
Dr. B. W. Richardson: A Ministry of Health.
Dr. A. Macalister: An Introduction to the Systematic Zoology and Morphology of Vertebrate Animals.
J. Tufnell: The Consolidation of Internal Aneurism.
G. Allen: The Colour-Sense—its Origin and Development.
Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques.
The American Journal of Otology. No. I. Vol. I.
The Physician and Surgeon. Vol. I. No. I.
Social Notes. January.
The Sunday Magazine. February.
Good Words. February.
The Contemporary Review. February.
Sunday at Home. February.
The Leisure Hour. February.
The Monthly Journal of Science. February.

## METEOROLOGICAL READINGS.

*(Taken daily at 8 a.m. by Steward's Instruments.)*

THE LANCET OFFICE, Feb. 13th, 1879.

| Date. | Barometer reduced to Sea Level, and 32° F. | Direction of Wind. | Wet Bulb | Dry Bulb | Solar Radiation in Vacuo | Max. Temp. Shade | Min. Temp | Rain fall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Feb. 7 | 29·48 | S.W. | 46 | 47 | .. | 52 | 43 | .. | Stormy |
| ,, 8 | 29·49 | S.W. | 43 | 45 | .. | 53 | 43 | 0·11 | Cloudy |
| ,, 9 | 29·38 | WSW | 49 | 51 | .. | 54 | 43 | 0·85 | Cloudy |
| ,, 10 | 28·97 | S.W. | 49 | 50 | .. | 51 | 48 | 0·11 | Raining |
| ,, 11 | 29·00 | W. | 46 | 48 | .. | 52 | 45 | 0·85 | Overcast |
| ,, 12 | 29·63 | N.E. | 36 | 38 | .. | 45 | 36 | 0·08 | Cloudy |
| ,, 13 | 29·84 | S.W. | 39 | 41 | .. | 43 | 37 | .. | Overcast |

# Notes, Short Comments, and Answers to Correspondents.

### THE METROPOLITAN WATER-SUPPLY IN JANUARY.

IT appears from Dr. Frankland's Analytical Report that the river waters supplied during January by the seven metropolitan Water Companies drawing their supply from the Thames and the Lea were more than usually polluted with organic impurity. In the deep well waters supplied by the Tottenham Local Board, the Colne Valley Company, and the Kent Company, the amount of organic impurity is represented in Dr. Frankland's Report as 1·1, 1·3, and 1·7 respectively. The relative amounts, however, in the river waters supplied by the other metropolitan Water Companies were as follow:—Chelsea, 3·3; New River, 4·4; East London, 4·4; Lambeth, 4·7; Southwark, 5·1; Grand Junction, 7·8; and West Middlesex, 8·2. The Grand Junction and the Chelsea waters were both inefficiently filtered, but the Chelsea Company's water showed a smaller proportion of organic impurity than any other of the river waters; whereas the West Middlesex water, which had been efficiently filtered, contained the largest proportion of this impurity. Comparative freedom from organic impurity was not the only recommendation of the deep well waters supplied to some portions of the metropolis during January. The river waters were delivered at a temperature very slightly above the freezing point, and were thus very liable to freeze in the service-pipes or cisterns. The Kent Company's deep well-water, however, differed but slightly from its average temperature, and was 52·3° Fahr. when drawn from the service-pipe at Deptford. The exceeding hardness of the deep well waters is often objected to; but the Colne Valley Company softens its water previous to delivery, and it contained in January only seven degrees of hardness, while the degrees of hardness of the Thames waters ranged from 19 to 24. When such water as that supplied by the Colne Valley Company is available, it becomes an undoubted hardship to the metropolitan water consumer that he should be obliged to use river water laden with organic impurities.

*Mr. G. Lancefield.*—Consult Dr. Hassall's work on the subject.

### THE ST. JOHN AMBULANCE ASSOCIATION.

*To the Editor of* THE LANCET.

SIR,—WHILE much of the purport of your remarks on the above Association in your issue of Jan. 25th I fully concur, and if the working of the Association were confined within the limits you point out, its usefulness would be undoubted. Facts, however, which have come under my knowledge connected with the carrying out of the objects of the Association *in practice* have made me incline to the belief that in some instances at least the teaching has exceeded "a little knowledge of the best way of handling injured bodies." A question like the following, for instance, has been known to have been given in the written examination of one of the classes: "Give the symptoms of fractured collar-bone and its treatment"; and others might be mentioned of a similar character referring to fractured thigh-bone, as well as to burns and head injuries. Such teaching as these questions indicate is, I maintain, inapplicable and mischievous to those who have not received a satisfactory training in anatomy and physiology. In support of this assertion, I may mention that an instance has been known in which a pupil, becoming dissatisfied with his instructor, started a class of his own. It appears, therefore, to me that the scheme can be, unless extreme care be exercised, injurious both to our profession and the public whom it is intended to benefit.

I am, Sir, yours respectfully,

SIMEON SNELL,
Ophthalmic Surgeon to the Sheffield General
February, 1879. Infirmary.

### "BAD WRITING."

A CORRESPONDENT sends a specimen of *bad writing*, and complains. He asks a homily on the subject. Who is to begin the attack; to throw the first stone? If to the request be added the name of a man who writes much and rapidly, at the same time so legibly that all can read, we shall be happy to oblige; but for the present conscience cries "forbear."

*Mr. Friel's* communication shall be noticed next week.

### RECENT SUNLESS WEATHER.

THE past two months have been remarkably sunless, and although the records of registered sunshine at the Royal Observatory, Greenwich, only extend as far back as February, 1877, it will not be without interest to note a few facts from the records of sunshine since that date. Both in 1877 and 1878, June was the sunniest month, the number of hours of recorded sunshine being respectively 267·1 and 183·4. After June the monthly amount of sunshine declined steadily in each year to 27·0 and 16·3 hours respectively, in December, 1877 and 1878. In January, 1878, the hours of registered sunshine were 35·0, and in February 32·9; whereas in the January of this year only 14·8 hours of sunshine were measured, the smallest monthly amount on record. During January last on only eight of the thirty-one days was any sunshine recorded; indeed during the fourteen days ending 5th February no sunshine was registered. With reference to the recent departure of frost, it may be noted that the change of wind from north-east to south-west on the 5th inst. was accompanied by a marked increase in the amount of ozone in the air. The daily amount of ozone measured in the ten days ending 4th February was but 0·7, whereas in the four days of southwest wind ending on Saturday last the degrees of ozone averaged 9·9.

*Dr. G. Eustache,* (Lille.)—We are obliged, but cannot exchange.

### SUSPENSION BY THE HEAD IN CONNEXION WITH DR. SAYRE'S TREATMENT OF SPINAL CURVATURE.

*To the Editor of* THE LANCET.

SIR,—The collars introduced by Dr. Sayre are found to give pain to the patient, and, as a consequence, the suspension by the head, which seems an essential point in this mode of treatment, is not always effectually carried out. I have frequently seen the patient allowed to rest on his toes while the jacket is being applied. In this manner full extension of the spine cannot be obtained.

The water-pad collar, which Mr. Pratt has made for me with great care and considerable skill, gives no pain. It allows of the easy suspension of the patient and of the complete extension of the spine during the whole time the jacket is being applied. It is constructed upon principles, some partly anatomical and partly mechanical, others purely mechanical. I will explain these principles as briefly as possible, beginning with the former ones. An inspection of the base of the skull and of its mode of articulation with the spine will show that when the body hangs from the head, its weight is suspended mainly from the sides of the foramen magnum—that is to say, from about the point of junction of the middle and posterior thirds of the antero-posterior axis of the face and cranium combined. Hence the part of the weight of the body which is borne by the surface behind the point of suspension—i. e., by the under surface of the occipital bone—is double that borne by the surface in front—i. e., by the lower jaw. *The collars hurt the patient mainly at the back of the head.* My collar has, therefore, been made broadest, and has been most carefully padded, behind. Further, when the chin is tilted upwards, and the occiput downwards, the point of suspension gradually moves forward in relative position, the surface behind increasing in extent; the back of the head is thus relieved from pressure. My collar has, therefore, been so constructed as to allow of suspension in any degree of extension of the head.

I turn to the purely mechanical principles. For a water-pad to distribute the pressure equally over the whole surface upon which it presses—or rather, in the case in point, over the whole surface which presses upon it,—this surface must press upon very nearly the whole of the water-pad. If the water-pad is pressed upon at one point only, it gives way at this point; the water is displaced, and the surface beneath is reached. I found by experiment that an ordinary horseshoe-shaped collar, simply lined with a water-pad, was to all intents and purposes no water-pad collar at all; the greater part of the water was pressed from the back to the front, and the back was left inadequately padded. The water-pad collar which I had thus tried was then adapted to be used in the reversed position—i. e., with the opening in front instead of behind. It answered much better this way. The back of the head was well supported. It was difficult, however, to retain the sides of the collar against the lower border of the jaw without tightening the collar inconveniently. I then tried two half-collars fixed one inside the other—the one open in front, the other open behind. The arrangement answered well, as will be seen, I believe, by anyone who will give it a trial. A complete circle of water, equally pressed upon at all points, surrounds the entire circumference of the base of the skull and lower jaw, and no single point bears undue pressure. The collar will further fit all sizes of necks.

Yours truly,

THOMAS COOKE, F.R.C.S.,
Senior Assistant-Surgeon to the Westminster
January, 1879. Hospital.

*M. T.*—The Committee is now engaged in reading and examining the essays, and no doubt an award will be made this year.

*Inquirer.*—We are not aware of any authentic or scientific ground for the notion.

### AXILLARY BROMIDROSIS.

*To the Editor of* THE LANCET.

SIR,—I should feel much obliged to any of your readers who would suggest a remedy for the above distressing complaint. My patient is a young man about twenty years of age, and in excellent health. I have already tried disinfectants and astringents, but without avail. I may add that my patient has consulted more than one specialist, but without obtaining any relief. If incurable, is there anything that will alleviate it?

I am, Sir, yours truly,

Old Kent-road, Jan. 31st, 1879. WM. BULL.

### THE BATTLE OF TRAFALGAR.

A SERIES of four pictures, of remarkable interest, is now on view at Mr. M'Lean's, Haymarket. The manifest impossibility of adequately representing so important a battle in one picture has induced the painter, the Chevalier Eduardo de Martino, to adopt the plan of embodying on four canvases different episodes of the engagement, the magnitude of which may be conceived when it is remembered that the line of the allied powers alone extended over a space of four miles. No. 1 illustrates the position which gave rise to Nelson's remark, "See how that noble fellow Collingwood carries his ship into action." No. 2 marks the action of the awful drama, when the greatest naval hero that ever lived was shot down from the mizen top of the *Redoubtable*, and exclaimed, "They have done for me at last, Hardy!" Subsequent scenes are pictured under the titles, "Well, Hardy, how goes the day with us?" and "Thank God I have done my duty!" The painting is admirable in tone, and the ships are portraits of the vessels that took part in the encounter.

*Mr. R. A. Waddell.*—Yes. Apply to the Medical Department, 6, Whitehall-yard.

*Piscator* should refer to the article on "Books" in the Students' Number of THE LANCET, published on September 14th, 1878.

### THE TREATMENT OF DELIRIUM TREMENS.

*To the Editor of* THE LANCET.

SIR,—May I be permitted to offer a word or two in accordance with the views put forth in the lecture of Dr. Balfour, published in a late number of THE LANCET. Dr. Balfour therein speaks very strongly, but not too strongly, on the importance of cutting off the further supply of alcoholic stimulants from the subjects of delirium tremens, and ably combats the notion that any harm can ensue from this line of conduct.

Having for several years past, after meeting with the views propounded by Dr. Wilks, adopted this line of practice, I can from personal observation affirm that not only does no harm, but much good follow. To continue or to permit the continued use of alcohol in these cases is a course so contrary to analogical or *à priori* reasoning that one wonders how it could ever have been adopted. If we have to do with a case of poisoning from arsenic or tartar emetic, do we not take measures effectually to eliminate the mineral from the system? If we meet with a case of opium poisoning, do we not have recourse to the special method to rid the system of the narcotic drug? Do we administer small and repeated doses of morphia? By parity of reasoning, then, is it not contradictory practice to add more alcohol to a system already saturated with the poison? The success that attends the opposite plan of treatment proves the fallacy of permitting continued indulgence. Not only is this treatment immediately beneficial, but it enables us to lay the foundation for the reformation of the habit of drunkenness. There is no halfway house for drunkards; no half measures will cure the vice. In total prohibition consists their only safety, present and future. I am not advocating "teetotalism" for general application. The daily practice of self-control and temperance is of far higher value, from all points of view, than any such high pressure or sentimental restraint.

I shall not trespass upon your space by entering upon therapeutic measures further than to observe that I have found those employed by Dr. Balfour to have afforded most satisfactory results, so much so that I look back with some pain and remorse at the old opium treatment of earlier days.

Your obedient servant,
Holloway, Feb. 4th, 1879. W. B. KESTEVEN, M.D.

*Electrization.*—We do not profess to answer questions which may be solved by reference to ordinary text-books; but we may say that there is no evidence of any difference, as to therapeutic effect, between the poles; the negative is more stimulating and powerful than the positive. In the work referred to, such points, we believe, are fully dealt with.

### THE AXFORD FUND.

THE following contributions have been received since the last announcement in this journal:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sir James Paget, Bart. .. | £3 | 3 | 0 | Sam. Lane, Esq. .. .. | 1 | 1 | 0 |
| Dr. Watson .. .. .. .. | 1 | 1 | 0 | Dr. J. Hamilton .. .. | 0 | 10 | 6 |
| Miss Asprey .. .. .. | 5 | 0 | 0 | G. T W. .. .. .. .. | 5 | 0 | 0 |
| C. Asprey, Esq. .. .. .. | 25 | 0 | 0 | Dr. Robt Barnes .. .. | 2 | 2 | 0 |
| Dr. Duncan .. .. .. .. | 0 | 10 | 0 | H. Adams, Esq. .. .. | 1 | 1 | 0 |
| J. Burton, Esq. .. .. .. | 1 | 1 | 0 | J. Brown, Esq., Bacup .. | 0 | 10 | 6 |
| Dr. Semple .. .. .. .. | 1 | 1 | 0 | Sir John Mantell .. .. | 5 | 5 | 0 |
| G. Dawson, Esq. .. .. | 2 | 2 | 0 | G. L., F.R.C.S. .. .. .. | 2 | 2 | 0 |
| Dr. Webb .. .. .. .. | 1 | 1 | 0 | Lennox Browne, Esq. .. | 2 | 2 | 0 |
| Henry Smith, Esq. .. .. | 5 | 0 | 0 | THE LANCET .. .. .. | 2 | 2 | 0 |

*Mr. J. P. Massingham.*—A double wall, with interspace filled with cork-shavings, would probably deaden the sound most effectively.

*M. A. B. C.*—Yes.

A "PLACARD."

"Bovine vaccination!!!
Great success!!!
Mothers delighted!!!
Call for their addresses, and see for yourself.
No lancet used.
No matter extracted.
Working classes per case 2s. 6d.
Physician, Dr. ———."

There must be some mistake. No such placard can possibly be posted or announcement painted on the house or consulting-room of any member of the profession! The notice is too absurd.

### THE RATIONAL TREATMENT OF PSORIASIS.

*To the Editor of* THE LANCET.

SIR,—Upon reading Dr. Bradbury's most interesting Notes on the Treatment of Obstinate Cases of Psoriasis, in THE LANCET of Jan. 11th, showing that these cases are not always amenable to the usual internal remedies containing arsenic in some form, and the local mercurial preparations so much advocated in the treatment of these diseases, I cannot help calling to mind many cases that have come under my notice in hospital practice and otherwise of a like nature which have proved very obstinate, and would not yield to treatment by arsenic (a drug which has been found to have very insidious properties in its action upon the tissues and bones in protracted treatment), mercury, liquor potassæ, and numerous local applications of mercury, tar, chrysophanic acid, &c., even vapour and alkaline baths proving of little or no avail. I think it points to a matter of great importance in the treatment of cutaneous disorders that we should not be led aside so much by the local manifestations of the skin, but give more special attention to the investigation of the hepatic, renal, and uterine systems as the hidden cause of psoriasis and many other skin affections which so often lurks in these localities. The notes of the following severe case may be interesting as an illustration of the point.

J. B——, aged fifty, a farmer, came under Mr. Startin's care at St. John's Hospital in April, 1877. On admission he appeared to be suffering from an acute form of psoriasis diffusa inveterata, affecting the whole body from head to foot, with complete loss of hair on every part of the body; the skin of the face was very red, shining, and sensitive; his urine was slightly albuminous; pulse full; temperature 100·2°. The guttate form of the disease was evident on the sounder parts of the skin and upon the scalp. On some parts of the body, mostly on the anterior and extensor surfaces, were found heaps of mortar-like scales, which in places had fallen off, leaving bright red spots. In other parts about the groin and flexures of the joints the denudation was more complete. The external ears and face were much inflamed, hot, and painful, the inflammation probably extending into the meatus auditorius, as the patient complained of getting very deaf as he got worse. The hair on the scalp, eyebrows, eyelids and lashes, pubic and other regions he had quite lost. At the angles of the mouth and folds of the nates and the scrotum were deep fissures and cracks, discharging freely. The palms of the hands and soles of the feet were affected, cracking and denudation of cuticle being evident. The nails also were diseased, of a yellowish-brown colour, very brittle, and fissured at the extremities. The mucous membrane of the mouth and anus and the tongue showed signs of the disease, and the lips were swollen and inflamed. The patient complained of no subjective symptoms beyond severe burning and smarting of the face, which he had almost covered up in oil and lint and oil-silk. He appeared a thin, spare man, rather below the average height.

*Previous history.*—At seven years old he had the first appearance of a disease which he states was called eczema, and which only lasted a short time, and until he was twenty he was quite free from the disease. Then there broke out an eruption precisely similar to the present, which continued up to the present time, with only short respites. The patient states he had an attack of diabetes two years ago, and has suffered much with a chronic diarrhœa. He is married, and has one child, who is quite exempt from any eruption. He states he was at one time quite a robust man, but has fallen away very much the last two or three years. He has been treated with all kinds of drugs, external and internal, with little or no avail. Has no family history of syphilis, scrofula, or any skin affection.

*Treatment.*—On admission, April 13th, 1877, skin very irritable and inflamed. He was ordered to bed, and was given a subcutaneous injection of morphia, as he was unable to sleep without it; zinc and calamine lotion was applied to the face; a mixture of sulphate and carbonate of magnesia, with tincture of colchicum, to be taken three times a day; and an ointment of red oxide of mercury and the ammonio-chloride of mercury, thirty grains of each to the ounce of purified benzoated lard, to be applied to the whole surface once a day. Light milk diet; no stimulants.

April 16th. — Much better. Morphia mixture to be discontinued. Desquamation extensive, leaving brownish stains; fissures, very painful, to be dusted with calamine powder. Ordered an alkaline bath.

19th.—Biniodide-of-mercury pill to be taken every alternate night; repeat mixture, with solution of arsenic, five minims.

30th.—Appearance of hair beginning to grow on the scalp; appetite better; much less inflammation. Repeat biniodide-of-mercury pill.

May 3rd.—Epidermic scales nearly all shed, except at the folds of the nates and flexures of the joints; complains of feeling low; mouth slightly affected.

10th.—Ordered a mixture of quinine and nux vomica.

June 9th.—Diarrhœa troublesome. Ordered opium powder, half a grain; acetate of lead, two grains: one to be taken every four hours; a little collodion to be painted over the inflamed surface.

25th.—He returned home a great deal better.

In October the patient had another very bad relapse. I was called into the country to see him, and prescribed ten grains of bicarbonate of soda with all his meals, and five minims of dilute nitro-hydrochloric acid after, and a mixture of soda, ammonia, and tincture of gentian twice a day. This treatment seemed to suit him; the diarrhœa ceased, the skin had almost entirely recovered itself, his food seemed now to nourish him, and I heard he had returned to his vocation again, and continued to improve in health.

This and many other cases I could mention, also cases of young women with uterine irregularities, and of men of drinking habits, seemed to yield remarkably to treatment directed against the offending organs, where all the usual local applications of mercury &c. and the internal administration of arsenic were of little or no use.

I am, Sir, yours &c.,
Sackville-street, Feb. 1879. JAMES STARTIN.

## THE CLIMATE OF DAVOS PLATZ.

METEOROLOGICAL OBSERVATIONS (JANUARY, 1879).

THE following will be interesting as tending to correct many prevalent impressions as to the climate of Davos Platz, Switzerland.—N.B. The readings of the barometer, maximum and minimum shade thermometers, and solar radiation thermometers are taken at 8 A.M.; the hygrometer readings at 2 P.M. The force of the wind is roughly estimated on a scale of from 0 to 12. For the humidity, 100 represents saturation. For the state of weather, B., blue sky; Bc., blue with clouds; Cb., clouds with blue; O., overcast; Sn., snow; M., mist.

| Date. | Barometer in inches. | Maximum in figures. | Minimum in figures. | Radiation Thermometer. | | Hygrometer. | | | | Wind. | | State of Weather. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Solar Maximum. | Terrestrial Minimum. | Dry Bulb. | Wet Bulb. | Dew point. | Humidity. | Direct. | Force. | |
| 1 | 24·90 | 44·0 | 20·5 | 109·0 | .. | 40·0 | 23·0 | 24·0 | 49 | S., N. | 2·1 | Cb., B., O. |
| 2 | 24·80 | 42·5 | 20·0 | 134·0 | .. | 32·0 | 31·0 | 28·7 | 87 | N. | 2·1 | Sn., M., O. Sn. |
| 3 | 24·87 | 33·0 | 13·0 | 76·5 | .. | 37·0 | 33·0 | 27·3 | 68 | S., S.W. | 1·2 | Cb., O., Bc., O. |
| 4 | 24·57 | 40·5 | 16·0 | 140·0 | .. | 32·8 | 28·6 | 20·0 | 57 | N., N.E. | 1·7 | O., B., Sn. |
| 5 | 24·90 | 37·0 | 20·0 | 141·0 | .. | 19·5 | 17·5 | 4·0 | 47 | N. | 4 | Sn., O., B. |
| 6 | 24·87 | 22·5 | 7·5 | 96·5 | .. | 17·0 | 15·0 | 2·0 | 41 | N. | 1 | B. |
| 7 | 24·78 | 19·4 | 7·0 | 119·5 | .. | 19·4 | 16·4 | 5·6 | 53 | N. | 2 | B. |
| 8 | 24·42 | 21·5 | 5·5 | 124·0 | .. | 14·0 | 13·8 | 12·2 | 92 | S.W. | 1 | O., Sn., O. |
| 9 | 24·35 | 15·8 | 4·0 | 34·0 | .. | 16·5 | 16·5 | 16·5 | 100 | N., S. | 1·3 | O., Sn. |
| 10 | 24·40 | 18·2 | 5·2 | 44·0 | .. | 20·2 | 18·2 | 4·1 | 48 | N. | 1 | B., Bc., O. |
| 11 | 24·50 | 22·5 | 10·8 | 127·5 | .. | 23·0 | 22·0 | 15·7 | 72 | S. | 1 | B., Cb. |
| 12 | 24·80 | 27·8 | 10·0 | 121·2 | .. | 30·8 | 28·0 | 20·3 | 63 | S. | 1 | Bc., B. |
| 13 | 25·15 | 34·0 | 8·5 | 132·0 | .. | 24·0 | 23·5 | 19·2 | 85 | S. | 1 | B., Bc., Sn., O. |
| 14 | 25·10 | 28·2 | 7·0 | 122·5 | .. | 34·2 | 32·0 | 28·2 | 78 | N. | 1 | B. |
| 15 | 24·92 | 38·8 | 13·5 | 132·0 | .. | 29·8 | 29·8 | 29·8 | 100 | N. | 5 | Bc., Sn., Cb. |
| 16 | 24·69 | 36·5 | 9·0 | 131·5 | .. | 21·8 | 21·0 | 15·8 | 76 | S.W. | 1 | Cb., B. |
| 17 | 24·70 | 27·2 | 10·5 | 93·5 | .. | 27·0 | 26·6 | 24·8 | 91 | N. | 4 | O., Sn., O. |
| 18 | 24·82 | 28·8 | 1·2 | 53·0 | .. | 21·8 | 21·0 | 15·8 | 76 | N.W. | 1 | B., Bc., O. |
| 19 | 24·90 | 27·3 | 3·5 | 132·5 | .. | 25·0 | 23·5 | 14·0 | 64 | N.W. | 2 | O., Bc., B. |
| 20 | 25·01 | 28·3 | 0·8 | 87·0 | .. | 28·2 | 23·5 | 4·2 | 30 | N. | 1 | B. |
| 21 | 24·79 | 30·4 | 9·0 | 135·0 | .. | 25·2 | 20·8 | 2·8 | 36 | S.W. | 2 | B., Bc., Cb., B. |
| 22 | 24·92 | 29·0 | 3·5 | 124·0 | .. | 30·5 | 30·5 | 30·5 | 100 | S.W. | 2 | O., Sn., O. |
| 23 | 24·95 | 41·0 | 22·5 | 55·0 | .. | 44·0 | 42·0 | 39·6 | 84 | S.W. | 2·51 | Bc., O. |
| 24 | 24·92 | 45·0 | 35·0 | 116·5 | .. | 45·0 | 42·5 | 39·6 | 81 | S.W. | 2 | Cb., B. |
| 25 | 24·97 | 47·5 | 24·0 | 132·0 | .. | 44·0 | 42·2 | 40·0 | 85 | S. | 1 | Bc. |
| 26 | 24·99 | 45·4 | 19·0 | 127·6 | .. | 40·5 | 35·0 | 28·0 | 61 | S.W. | 1 | B., Bc. |
| 27 | 25·10 | 41·4 | 20·0 | 110·0 | .. | 39·8 | 33·0 | 24·5 | 54 | S. | 2 | B., O. |
| 28 | 25·05 | 42·3 | 20·0 | 133·6 | .. | 35·2 | 33·0 | 29·5 | 79 | S. | 1 | Bc. |
| 29 | 25·05 | 39·6 | 24·0 | 97·5 | .. | 37·2 | 32·0 | 24·7 | 60 | S.W., N. | 1 | B. |
| 30 | 25·04 | 42·5 | 11·6 | 131·0 | .. | 35·0 | 31·8 | 27·0 | 68 | N. | 1 | Bc., Cb., Bc. |
| 31 | 25·02 | 36·6 | 10·8 | 108·0 | .. | 34·5 | 32·0 | 27·8 | 74 | N. | 1 | Bc., Cb. |

### SPREAD OF ENTERIC FEVER BY MILK.

DR. CAMERON, of Dublin, having recently attributed an outbreak of enteric fever in about thirty cases to the milk-supply from a dairy in that city, the Town Council requested the Local Government Board to institute a sworn inquiry into the circumstances. The Board, however, have refused, as they state that they cannot understand what advantage is expected to arise from such an inquiry.

*Censor.*—The question is an exceedingly delicate one; but it will occasionally arise between two perfectly honourable, friendly, and efficient men, to the embarrassment of both of them, though it should not lead to their estrangement. In the present case, B. should, if possible, excuse himself from attendance on Dr. A.'s patient, pointing out that he only came to know the patient through A.'s introduction. But suppose the patient to insist on his undoubted right to choose his own medical attendant, and to choose B., we are not prepared to say that B. would be justified in refusing to attend Mr. C. The case is one for magnanimity and honourable feeling on both sides.

*Mr. H. Rampert.*—It is our rule not to give the names of physicians or surgeons as distinguished in the treatment of particular diseases.

### THE MEDICAL DIRECTOR-GENERAL OF THE NAVY.

*To the Editor of* THE LANCET.

SIR,—The naval medical profession will, I am sure, heartily join you in hoping that there may be yet a bright future for their department if a judicious selection is made for the chief post at Whitehall, which you publicly announced will be vacated some two months hence by its present occupant. This latter intelligence, emanating from such an authentic source, has been received with general satisfaction, and must be especially gratifying to the three naval medical officers to whom you referred in a recent issue of your journal, as the only stumbling-block to their promotion will be removed by the event. The news is also opportune, as it will allay an uneasy feeling throughout the department created by the possibility, suggested by you some weeks back, that a third term of office might be given to Sir A. Armstrong, and it was felt that it would be unfair to a branch of the public service that any one man should nullify the advancement of the many. Yours &c.,

February, 1879. A MEDICAL OFFICER, R.N.

*** The present Medical Director-General must vacate his appointment; but, for aught we know, he may be re-elected.—ED. L.

*Mr. Hunter.* — The conditions are still so uncertain that we cannot advise. The best way would be to address a letter of inquiry to the head of the department.

*Alpha.*—The assertions contained in the letter are so vague, and our space is so much occupied, that we must decline the insertion of the letter with this signature.

*L.R.C.P.L.* should address his inquiry to the Dean of the Faculty at Cambridge, who will give every information.

*Spes.*—Consult a registered practitioner.

*Mr. Howard Orfeur*, (Norwich.)—The specimens are proglottides of the beef tapeworm (*Tænia mediocanellata*), and the parasite will certainly yield to one-drachm doses of the male fern extract, combined with mucilage, and followed by a briak purgative two hours afterwards.

### TREATMENT OF STUMPS AFTER AMPUTATION: A NEW METHOD.

*To the Editor of* THE LANCET.

SIR,—On page 31 of vol. i. of THE LANCET for 1878 you did me the honour of making room in your valuable journal for a communication on the above subject, and I should be equally obliged by your insertion of the following description of an experiment I lately made with the view of subjecting my theory or method to a pretty thorough test on a larger scale of operation, the opportunities for such a test not being numerous in such a city as Quebec.

For my purpose I procured a condemned horse, and in company of an esteemed *confrère*, Dr. de Guise, of this city, I practised the following operation:—The horse was tied and placed under anæsthetic influence, and having surrounded the limb to be operated upon (the left front leg) from two inches above the trapezium with a strong circular bandage extending to near the humerus, with a sufficient and uniform pressure, in order to diminish the volume of blood in that limb, and applying a tourniquet over what corresponds to the radial artery in man, I then performed the flap operation, drawing afterwards the parts closely together. I then dressed the stump in the manner already described in your journal, reduced the pressure of the tourniquet to allow sufficient blood to come in contact with the bandages saturated with the iron, to form the hard, resisting mass required to prevent hæmorrhage. A few minutes later I took off the tourniquet, and soon ascertained beyond doubt that the circulation in the stump was perfect, and not a drop of blood escaping. I kept the horse in sight during the space of three hours after the operation, satisfying myself and colleague with the result; thereupon we sent the horse to the knacker, my test being applied I had no longer any reason for prolonging the animal's life. Though this experiment does not prove the occurrence of union by first intention in connexion with previous and minor operations, it leaves no doubt of the fact on my mind.

Let me repeat the advantages of the method I advocate. Assuming that the wound heals by first intention, and that the healthy living tissues may unite without suppuration or "putrefactive fermentation," the aseptic condition or result as claimed for Professor Lister's method is, I believe, secured; ligatures and sutures are thus avoided, which save the usual resultant mischief; last, though not least, we have in my plan a simple procedure and rapid healing results.

I hope, Sir, in forwarding you this brief report that its effect may be further consideration of this subject with suitable experiments to discover the real value of my proposed method, which, if found successful, as I am convinced it should be, would no doubt prove a great benefit to the large numbers compelled in all lands to undergo painful and tedious convalescences. Perhaps some of your many professional readers would express their opinions or, hereafter, their experience, on this very important subject. Yours sincerely,

Quebec, December, 1878. ED. GAUVREAU.